1                    IN THE UNITED STATES DISTRICT COURT
                    FOR THE EASTERN DISTRICT OF VIRGINIA
2                           Norfolk Division

3

4

- - - - - - - - - - - - - - - - - - -
5                                      )
     ACTIVEVIDEO NETWORKS, INC.,        )
6                                      )
             Plaintiff                  )
7                                      )   CIVIL ACTION NO.
     v.                                 )   2:10cv248
8                                      )
     VERIZON COMMUNICATIONS, INC.,      )
9    et al.,                            )
                                       )
10           Defendants.                )
- - - - - - - - - - - - - - - - - - -
11

12

13

                         TRANSCRIPT OF PROCEEDINGS
14

15                          Norfolk, Virginia

16
                             July 18, 2011
17

18                      DAY 5, AFTERNOON SESSION

19

20   BEFORE:   THE HONORABLE RAYMOND A. JACKSON
               United States District Judge
21

22

23

24

25


                   JODY A. STEWART, Official Court Reporter

778

```
1    APPEARANCES:

2            MORGAN, LEWIS & BOCKIUS, LLP
             By:  Daniel Johnson, Jr.
3                 Michael J. Lyons
                  Nathan W. McCutheon
4                 Ahren C. Hsu-Hoffman
                  Dion Bregman
5                      And
             KAUFMAN & CANOLES
6            By:  Stephen E. Noona
                  Counsel for the Plaintiff
7

8            SIMPSON THACHER & BARTLETT, LLP
             By:  Henry B. Gutman
9                 Noah M. Leibowitz
                  Patrick King
10                     And
             KELLOGG HUBER HANSON TODD EVANS & FIGEL
11           By:  Michael K. Kellogg
                  Evan T. Leo
12                Wan Joo Kim
                       And
13           VERIZON CORPORATE RESOURCES GROUP
             By:  John P. Frantz
14                     And
             HUNTON & WILLIAMS
15           By:  Brent L. VanNorman
                  Justin T. Arbes
16                Counsel for the Defendants

17

18                      *      *      *
19

20

21

22

23

24

25
```

JODY A. STEWART, Official Court Reporter

779

```
 1                              I N D E X

 2   PLAINTIFF'S
     WITNESSES                                          PAGE
 3
      DAN SCHONFELD (Cont'd)
 4        Direct Examination By Mr. Lyons               781
          Cross-Examination By Mr. Gutman              833
 5

 6   DEFENDANT'S
     WITNESSES                                          PAGE
 7
       None
 8

 9

10

11                          E X H I B I T S

12   PLAINTIFF'S
     NO.              DESCRIPTION                        PAGE
13
      972-975              Documents                     781
14

15   DEFENDANT'S
     NO.              DESCRIPTION                        PAGE
16
       None
17

18

19

20

21

22

23

24

25
```

JODY A. STEWART, Official Court Reporter

```
 1                          AFTERNOON SESSION
 2                (Hearing commenced at 2:16 p.m.)
 3           MR. LYONS:  Your Honor, we have plaintiff's exhibits
 4   if you would like to go through them at this time.
 5           THE COURT:  I didn't hear what you said.
 6           MR. LYONS:  We have the plaintiff's exhibits we
 7   discussed earlier.  We wanted to move those in.
 8           THE COURT:  All right.  We will deal with those in
 9   short order.
10                (Jury in at 2:34 p.m.)
11           THE COURT:  You may be seated.  The record will
12   reflect all jurors are present this afternoon.  Does counsel
13   agree?
14           MR. LYONS:  Yes, Your Honor.
15           MR. GUTMAN:  Yes, Your Honor.
16           THE COURT:  All right.  My understanding we have the
17   hard copies of Exhibits 972 through 975.
18           MR. LYONS:  That's correct, Your Honor.
19           THE COURT:  And you showed those to Mr. -- have you
20   shown those to Mr. Gutman?
21           MR. LYONS:  We have, Your Honor.
22           MR. GUTMAN:  No objection, Your Honor.
23           THE COURT:  All right.  Then if you will pass those
24   up.
25           MR. LYONS:  Your Honor, we would move for admission
```

Schonfeld, D. - Direct                                        781

```
 1   of those exhibits at this time.
 2           THE COURT:  Okay.  They will be admitted.  They are
 3   admitted.
 4           MR. LYONS:  Thank you, Your Honor.
 5           THE COURT:  You may continue.
 6           (The document was received in evidence and marked as
 7   Plaintiff's Exhibit No. 972-975.)
 8           MR. LYONS:  Thank you.
 9            DAN SCHONFELD, called by the Plaintiff, having been
10   first duly sworn, was examined and testified as follows:
11                      DIRECT EXAMINATION
12   BY MR. LYONS:
13   Q.  Professor Schonfeld, before we broke for lunch, we were
14   talking about claim 8 of the '578 patent.  Why don't we begin
15   where we left off.  Particularly, if you could describe to
16   the jury what this element of the claim is referring to.
17   A.  So this particular element refers to a plurality of
18   subscriber selection devices, which are associated with the
19   home interface controller in communication with the data
20   transceiver for permitting subscriber interaction.
21           And in particular the selection device refers to
22   something like a remote control controller that the set-top
23   box.  So if you look at the next slide, in the set-top box
24   there is an infrared receiver that can get signals through a
25   remote control, and if you look at the next slide, the remote
```

Schonfeld, D. - Direct                                          782

 1   control, whenever you press buttons that generate signals,

 2   that are transmitted in the form of infrared signals to the

 3   setup device.

 4   Q.   Professor, can you explain how the set-top box receives

 5   the signals from the remote control?

 6   A.   Sure.  If -- we saw this figure earlier which depicts the

 7   architecture within the setup device and within the set-top

 8   box, and one of the components, which you see on the bottom

 9   left-hand side, is referred to as IR-RC RX.  This is the

10   infrared light receiver on the set-top box that actually

11   receives the signal.

12         And through the MOCA transceiver that we spoke about

13   earlier, it goes through the cable which has a bi-directional

14   arrow through to the network all the way up to the headend.

15   Q.   So for this element of this claim of the '578 patent is

16   it met by the FiOS TV system?

17   A.   It is.

18   Q.   Why don't we check that element off and go to the next

19   one.  Can you explain what this element is referring to?  I

20   know this is a long element so you may want to break it up.

21   A.   Okay.  So the general description of this particular

22   element is describing characteristics that must be met by

23   what the interactive controller, that is, the processor in

24   the headend that actually performs the function for doing

25   this in the proper manner, and the Court has construed the

Schonfeld, D. - Direct                                        783

```
1    term interactive controller, or other interactive controller

2    as equipment for providing information services and for

3    communications -- and for communicating with a home interface

4    controller.

5    Q.   And what about the term television communication?  Is

6    that also a term the Court has construed?

7    A.   That's correct.  The term television communication is

8    providing an information service via a television information

9    signal.

10   Q.   And assignable television communication, is that one the

11   Court has construed?

12   A.   That's correct.  The assignable television communication

13   has been construed by the Court as an information service

14   provided via a television information signal capable of being

15   assigned to a home interface controller.

16   Q.   Did you use these interpretations in your infringement

17   analysis?

18   A.   I did.

19   Q.   Why don't we go through this element one part at a time.

20   So let me just take the first language in this element and

21   explain whether you concluded whether it has been met by the

22   FiOS TV system?

23   A.   Okay.  So the first portion of this element is a

24   plurality of interactive controllers disposed at the headend.

25   And if you go to the next slide, this is -- back to the same
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                                        784

```
 1    schematic diagram that we saw all day today of the NextGen

 2    system, in particular, there is -- in the bottom portion of

 3    the video hub office, the video streamer section, there is

 4    the Cisco streamer server, and that's the interactive

 5    controller as well as the GigE card, which is what we spoke

 6    about earlier that actually does the streaming, multiple GigE

 7    cards in each of the streamers.

 8           And if we look at the same thing for the SeaChange

 9    system, similarly, there is a Mediacluster, and there are

10    Mediacluster servers, and specifically the interactive

11    controller is the Mediacluster server within the Mediacluster

12    as well as the edge card within the Mediacluster server used

13    for the actual streaming.

14    Q.  Now why don't we go back to the claim.  Now, the

15    interactive controllers, are they in television communication

16    with the information source?

17    A.  They are.

18    Q.  Can you explain it?

19    A.  So if we go into the next slide, again, looking at the

20    NextGen system, we see the interactive controller, which is

21    highlighted in the bottom of the video hub office, and this

22    is in television communication with information that is --

23    there is MPEG 2 signals stored in the video demand storage as

24    well as in the cache off the interactive controller and that

25    information is sent and communicated between the vault in the
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                              785

1   streamer server as well as between the cache and the GigE

2   card within the streamer server, and it is all in the form of

3   MPEG 2.

4           And if we look at the NextGen system, the SeaChange

5   system, and once again we have the Mediacluster, and the

6   Mediacluster itself actually has all of the MPEG 2 data

7   stored in it, and this is in the form of MPEG 2 once again,

8   and it is sent over to the edge card within the Mediacluster

9   server, and in the form of MPEG 2 prior to transmission.

10  Q.   And, Professor Schonfeld, are these interactive

11  controllers also an assignable television communication over

12  the network with an assigned home interface controller?

13  A.   Yeah, they are.

14  Q.   All right.

15  A.   So if we look at the next slide, so, once again, we look

16  at the interactive controller, and the interactive

17  controller, in the case of the NextGen system, is, once

18  again, the stream server and the GigE card on the stream

19  server, and this sends MPEG 2 streams all the way from that

20  server in the form of MPEG 2 all the way to the set-top box.

21          And if we look at the next slide, the same for the

22  SeaChange system, the Mediacluster server in the underlying

23  edge card on the server, on the Mediacluster server sends

24  MPEG 2 streams, which is a television information signal, all

25  the way to the set-top box, to the set-top box.

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                       786

 1   Q.   Professor, those are assigned communications?
 2   A.   They are.
 3   Q.   How is that done?
 4   A.   The -- through the process of setting up the session and
 5   the poke hole.  At that point the signal is sent, in the case
 6   of some -- in the case of NextGen system from the GigE card
 7   on the steering server, it is sent in the form of MPEG 2, and
 8   the MPEG 2 is encapsulated in the MPEG 2 transient stream
 9   packets, which is further embedded into UVP and IV packets,
10   and those are addressed in such a way that they can be sent
11   all the way down to the set-top box itself.
12        And the same is true for the SeaChange system except
13   it starts at the Mediacluster server and the underlying edge
14   card on the Mediacluster server, but otherwise it is still
15   MPEG 2 that is put into MPEG 2 transfer stream encapsulated
16   in UVP and IP packets and addressed in such a way that it can
17   be sent all the way to the set-top box.
18   Q.   Now, the interactive controller, let's look at the third
19   characteristic.  Are they an assignable data communication
20   over the data communication link with the assigned home
21   interface controller?
22   A.   They are.
23   Q.   And what is that referring to?
24   A.   So it is referring to the fact that you can have exchange
25   of data in addition to the MPEG 2 stream, which is in

Schonfeld, D. - Direct                                      787

```
 1   television communications.  You have exchange of data in the
 2   form of data communication link between the interactive
 3   controller and the home interface controller, which is the
 4   set-top box.
 5   Q.  Now, what data communications are you referring to in the
 6   FiOS system?
 7   A.  So in the case of the data communications, data
 8   communications are primarily trick play functionality.  So we
 9   spoke earlier about how the system had the ability to send
10   trick play functionality in order to be able to change the --
11   what is going on in terms of the streaming functionality of
12   the MPEG 2.  And so trick play would be the main
13   functionality.
14           And in addition to that, the -- some of the stun
15   binding that we spoke about earlier are also data
16   communications that are between the two, you know, to be able
17   to actually allow the stream to come all the way to the
18   set-top box.
19   Q.  What about in the case of the SeaChange system, is there
20   data communications there?
21   A.  Yes.  If we go back for a second, so the data
22   communication is depicted over here.  You have communication
23   between the set-top box, goes through the control server to
24   the streamer in order to affect trick play functionality.
25   And you also have direct communication in the form of the
```

Schonfeld, D. - Direct                                              788

```
 1   stun binding when it is actually established at the stun
 2   binding in both directions.
 3          And then if we go to the next slide, in the case of
 4   SeaChange, once again, you have trick play functionality
 5   going through the connection manager which then controls and
 6   communicates to the forward communications and the
 7   information to the Mediacluster.  And in addition to that,
 8   you also have the edge card ping, which is the thing -- is
 9   done by ping in terms of its goal.
10   Q.   Thank you.  Why don't we look at the last part of this
11   element, and that says, so that the interactive controller
12   furnishes the information service interactively over the
13   network to the assigned home interface controller and its
14   associated television.
15          Is that language met by the FiOS TV system?
16   A.   It is.
17   Q.   Explain.
18   A.   So the interactive controller, the streaming servers in
19   the underlying GigE card, in the case of the NextGen system,
20   as well as the Mediacluster server and the underlying edge
21   card, in the case of the SeaChange systems, provide the
22   interactivity, allows you to stream Video on Demand, allows
23   you to do the trick play functionality, all the activity that
24   is required by this portion of this limitation.
25   Q.   So is this entire element met by the FiOS TV system?
```

Schonfeld, D. - Direct                                              789

```
 1   A.   It is.

 2   Q.   All right.  Why don't we check that off.  And move on to

 3   the limitation of the dependent claim, claim 9.  Can you

 4   explain what this claim refers to?

 5   A.   So dependent claim 9, similar to dependent claim 2, which

 6   we spoke in the '678 in the morning and the dependent claim,

 7   which means that in order to satisfy this particular claim,

 8   you have to satisfy all of the limitations, each and every

 9   element of claim 8.  And then in addition to that satisfy

10   claim 9, and in particular claim 9 requires that the data

11   communication link is over the network.

12          And it clearly, in the event -- in the case of the

13   FiOS system, also with NextGen as well as the SeaChange

14   system, the data communication link is over the FiOS network

15   in the form of the signalling that goes on from the home over

16   the remote line up through the wavelength that I spoke about

17   for digital signalling through the trunk all the way up to

18   the video hub office.

19   Q.   So is this claim infringed by the FiOS TV system?

20   A.   It is.

21   Q.   Why don't we check that off.  So does that complete your

22   analysis of the infringement of claim 9 of the '578 patent?

23   A.   It does.

24   Q.   Now, have you considered other patents and whether they

25   are infringed?
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                              790

```
 1   A.   Yeah.   I have considered another, the last one is the
 2   '883 in terms of the interactive TV patents.
 3   Q.   Turn to that '883 patent.   Specifically claim 1, is this
 4   one of the claims that you considered?
 5   A.   That's correct.
 6   Q.   Why don't we look at the first element of claim 1.
 7   Explain what this element is referring to, this portion of
 8   the claim.
 9   A.   So, again, this is talking about a method for providing
10   interactive service on a cable television system that
11   distributes television signals from the cable headend over an
12   information service distribution network to a plurality of
13   subscriber television sets.
14        So, again, this means that the cable television
15   system which allows interactive services.
16   Q.   Is this met by the FiOS TV system?
17   A.   It is.
18   Q.   Can you explain that?
19   A.   So, again, in the case of the FiOS system is the cable
20   television system an interactivity is provided both through
21   the FiOS networking system, the digital signalling, as well
22   as through the equipment provided for the Video On Demand,
23   which in the case of the NextGen system is depicted in this
24   particular figure and in the next figure, the SeaChange
25   system provides interactivity over the FiOS system, as well.
```

Schonfeld, D. - Direct                                          791

```
1    Q.   This element is met?
2    A.   It is.
3    Q.   Let's check that off and move on to the next one.  Can
4    you explain what this element is?
5    A.   So this calls for detecting at a node on the information
6    service distribution network a request, from a home interface
7    controller associated with one of the subscriber television
8    sets, for an information service in an interactive mode.
9    Q.   Now, is that term interactive node, has that been
10   interpreted by the Court?
11   A.   Yes, it has.  And the definition of interactive node is
12   the node is providing an information service to the home
13   interface controllers.  The home interface controller may but
14   need not be furnishing data to the node as to what
15   information service to provide.
16   Q.   Now, is this element of the '883 met by the FiOS system?
17   A.   It is.
18   Q.   Explain that.
19   A.   So if we go into the next slide, if you recall, the RTP
20   session setup request information, that goes from the set-top
21   box, it is detected by the equipment in the open stream, in
22   particular the session resource manager, which is the SRM.
23   Q.   Explain for the SeaChange system, as well.
24   A.   And in addition to that, also that that particular
25   request for a session is a request for a session in the
```

Schonfeld, D. - Direct                                              792

```
 1   context of an information service.  And for the SeaChange
 2   system, it's exactly the same thing.  It is the same RTSP
 3   session setup request message going from the set-top box to
 4   the RTSP gateway and ultimately going all the way up to the
 5   session resource manager in the command center of the
 6   SeaChange system.
 7   Q.   This element of the '883 patent, claim 1 is met; is that
 8   right?
 9   A.   It is.
10   Q.   Let's check that off and go onto the next element.  Can
11   you explain what this is?
12   A.   So this is a controlling at a processor in the node in
13   response to detection of the request, an interactive session
14   with the requesting home interface controller.  So this is
15   referring to the fact that once we have detected that
16   particular request in the previous limitation, we now are
17   going to have an interactive session, and we are going to
18   control this interactive session.
19   Q.   Is that done in the FiOS TV system?
20   A.   It is.
21   Q.   Describe that.
22   A.   So in the case of the NextGen system, and once the
23   message has been detected by the session resource manager in
24   the open stream server, the session resource manager
25   communicates with a control server in the VOD stream,
```

Schonfeld, D. - Direct                                    793

```
 1   streaming section, the setup portion, and then assigns a
 2   streaming server, a streaming server as well as a GigE card.
 3   And so it provides for all of the assignments necessary to
 4   control the interactive session in order to allow streaming.
 5   Q.  And what about the SeaChange platform?
 6   A.  So the same thing is true in the case of the SeaChange.
 7   At this time it goes up to the -- the request goes up to the
 8   session resource manager, detected in the session resource
 9   manager within the command center, and within the session
10   resource manager, it then in communication with the
11   connection manager, allocates the Mediacluster server as well
12   as the edge card on the Mediacluster itself and controls all
13   of the allocation needed within that interactive session.
14   Q.  Is this element also infringed by the FiOS TV system?
15   A.  It is.
16   Q.  Let's check that element off, and go onto the next one.
17   Can you explain what this is?
18   A.  So the next limitation is providing an information signal
19   capable of full motion video responsive to the interactive
20   session through the information service distribution network
21   to the subscriber television set associated with the
22   requesting home interface controller for display of an image
23   produced by the information signal.
24   Q.  Now, is information signal a term that's been interpreted
25   by the Court?
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                        794

```
 1   A.   It has.

 2   Q.   Can you explain that?

 3   A.   So information signal has been construed as any signal

 4   that may be utilized by a television for video display,

 5   regardless of the form, including a standard NTSC modulated

 6   RF carrier and MPEG compressed data stream or any other

 7   format.

 8   Q.   Did you use that construction in your analysis?

 9   A.   I did.

10   Q.   And what did you conclude about whether this limitation

11   is met?

12   A.   So if we look at the case of the NextGen system, once

13   again, the streaming servers and the GigE card within the

14   video hub office streams an MPEG 2 signal, which is an

15   information signal, and it is sent all the way to the set-top

16   box.   And in the case of the SeaChange system, once again,

17   the same thing is true, within the Mediacluster server, and

18   within the edge card Mediacluster server and the MPEG 2

19   stream, which is an information signal, sent all the way to

20   the set-top box for display.

21   Q.   So is this limitation infringed by FiOS TV?

22   A.   It is.

23   Q.   Let's check that element off.  Let's go onto the last

24   element.  Can you explain this.

25   A.   So the last element is receiving data communications at
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                        795

```
 1    the processor from the requesting home interface controller

 2    during the interactive session representative of commands

 3    interactive with the image on the associated subscriber

 4    television set.

 5    Q.   Can you explain what that means, representative of

 6    commands interactive with image in the associated subscriber

 7    television set?  What is that talking about?

 8    A.   The kind of example this is talking about is something

 9    like trick play functionality, so the commands for stop,

10    rewind, fast forward, this type of command.

11    Q.   And is this element met by the FiOS TV system?

12    A.   It is.

13    Q.   Can you explain that?

14    A.   So in the case of the NextGen system, if you recall,

15    commands -- trick play commands are sent from the set-top box

16    to the control server, which in turns forwards the

17    information to the stream server into the GigE card in order

18    to be able to modify the streaming to meet the trick play

19    request.

20          And in the case of the -- so if we go onto the next

21    slide, this shows an example of the Flintstones system where

22    if you go to the next slide, commands of the -- from the

23    remote control can be used to actually modify and interact

24    with the image by doing trick play functionality.

25          And then -- those commands can be, as I say, pause,
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          796

```
 1  rewind, fast forward and so on.  And the same thing can be

 2  done for the SeaChange system, that is, requests go on from

 3  the set-top box, in this case through the RPS gateway through

 4  the connection manager, from the connection manager to the

 5  Mediacluster server and the specific edge card within the

 6  Mediacluster server in order to perform trick play

 7  functionality of the same type; pause, rewind, fast forward,

 8  et cetera.

 9  Q.  So is this element infringed by the FiOS TV system?

10  A.  It is.

11  Q.  So let's check that off.  So does that conclude your

12  analysis of claim 1?

13  A.  It does.

14  Q.  And what is your opinion on whether claim 1 is infringed?

15  A.  Claim 1 of the '883 is infringed by both the Verizon

16  practicing VOD with NextGen as well as with the SeaChange

17  system.

18  Q.  Okay.  We've got one claim left on this group of patents.

19  So why don't we move to that.  First of all, can you explain

20  claim 26 and how it relates to other claims in the patent.

21  A.  So claim 26 is also a dependent claim but it depends on

22  claim 24 as well as 25.  So we'll have to -- in order to

23  establish whether claim 26 is met -- or by Verizon system, we

24  have to go -- I have to do the analysis of each and every

25  limitation of claim 24 followed by claim 25 as well as claim
```

Schonfeld, D. - Direct                                    797

```
 1   26 in order to establish an infringement of claim 26.
 2   Q.   So let's go through those limitations.  Let's start with
 3   claim 24, and the first element, can you explain what this is
 4   referring to.
 5   A.   So generally it refers to an interactive service over a
 6   cable television system of the type that we saw earlier
 7   today, and in particular it requires information sources to
 8   be available, and it requires that information service be
 9   provided over a distributed network.
10   Q.   And is that done in the Verizon system?
11   A.   It is.
12   Q.   Can you explain that?
13   A.   So the FiOS system is -- is a cable television system
14   through both the NextGen as well as the SeaChange system.  It
15   provides for interactivity and interactive television, and in
16   particular, in the case of the super headend, contains vault,
17   which is an information source.  In the case of the video hub
18   office, it contains, for the NextGen system, a cache is part
19   of the streaming server, and in the case of the SeaChange
20   system, it's the Mediacluster itself that serves as a -- that
21   serves as an information source.  And finally the information
22   distribution network is the FiOS system itself, the FiOS
23   network itself.
24   Q.   So this section of the claim is infringed by the FiOS TV
25   system; is that right?
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                              798

```
 1   A.   Yes.   We can actually, if we go back to the previous
 2   slide, I can point out -- if we go back one slide, I can
 3   point out the information sources in the NextGen system,
 4   which is the vault in the case of the super headend of the
 5   NextGen system, and the cache is not shown over here.  It's
 6   in the open stream of -- sorry, in the Video On Demand
 7   streaming, particularly in the streaming server, and the only
 8   reference to it is the cache filled request response
 9   referring to the cache residing on it.  And in the next slide
10   we have the Mediacluster servers which are the information
11   source elements themselves.
12   Q.   And so is this element infringed by the FiOS TV system?
13   A.   It is.
14   Q.   So let's check that off.  And move onto the next element,
15   and can you explain what this element is referring to?
16   A.   So this particular element talks about the home interface
17   controller, headend transceiver and having a selection input
18   for receiving signals from the subscriber selection device.
19   Q.   Does the FiOS TV system infringe this element?
20   A.   It does.
21   Q.   Can you explain that?
22   A.   So the home interface controller would be the set-top box
23   that pick up on the right-hand side of this particular
24   figure, and this could be a much lower set-top box, and in
25   the case -- and it shows the communication over here between
```

Schonfeld, D. - Direct                                          799

```
 1   the set-top box in the SRM.  And if we go to the next slide,

 2   we have the set-top box of the same type, and it shows

 3   communication again between the set-top box and the RTSP

 4   gateway, which has access to both the SRM as well as the

 5   connection manager.  And if we go to the next slide, once

 6   again we see the schematic of the set-top box itself which

 7   contains a transceiver, in particular the remote transceiver,

 8   that is the transmitted and receiving ability for

 9   communication over the cable in the house to the FiOS network

10   system.

11           And it also has -- if we go onto the next slide, the

12   IR-RC RX, that's the infrared signal receiver coming from the

13   remote control and received by the set-top box that we spoke

14   about earlier.

15   Q.  So is this element of the claim met by the FiOS TV

16   system?

17   A.  It is.

18   Q.  Let's check that element off.  And go onto the next one.

19   This is a long element.  Why don't you try to describe what

20   we are looking at here.

21   A.  Okay.  So it's a long element.  It refers to a processor.

22   So the processor we are referring to is the processor in the

23   headend, and it has some sub-functionalities, and they refer

24   to -- the first functionality relates to control data that is

25   generated by the selection device.
```

Schonfeld, D. - Direct                                                800

```
 1            So that would be the kind of trick play selection
 2    generated by the remote control.  And then the second portion
 3    would be control data which is received by the processor.  So
 4    that control data has to go all the way from the remote
 5    control through the set-top through the network all the way
 6    to the headend and into the processor itself.
 7            And then the third portion has to do with
 8    information signals which are provided by the processor, that
 9    is the actual signal itself, and then finally the information
10    signal has to be modified in response to the selection device
11    request.  So in response to doing a command like trick play
12    such as stop, fast forward, rewind, the information signal
13    has to be modified in some way in response to it.
14    Q.   And is this element met by the FiOS TV system?
15    A.   It is.
16    Q.   Can you explain that?
17    A.   So the processor, in the case of the FiOS TV system using
18    the NextGen system, would be the streaming service and the
19    underlying GigE card within it.  The signal generated, in the
20    case of the SeaChange system, it would be the Mediacluster
21    and the underlying edge card within that.  In terms of the
22    element requiring infrared signals to be generated by the
23    selection device by the remote control, that is satisfied in
24    the same way for both SeaChange as well as the NextGen
25    system.
```

Schonfeld, D. - Direct                                            801

1            And it communicates -- it is received by the set-top

2    box, communicates through the set-top box, and in the

3    transceiver going all the way up to the processor to the

4    respective processor in each of the SeaChange and NextGen

5    system.  And it provides the trick play functionality within

6    the remote control -- when the button responding to trick,

7    pause, fast forward, rewind, are pressed.  And then the GigE

8    card and the edge card in each of those particular systems

9    are used to actually field the signal itself.

10           And then finally the trick play functionality in

11   response to those trick play requests, the signals themselves

12   are modified so that when you pause, fast forward, rewind,

13   the signal changes.

14   Q.  And now have you concluded whether this element of the

15   claim is met by the FiOS TV system?

16   A.  I have.

17   Q.  And what is your conclusion?

18   A.  It is met.

19   Q.  All right.  I want to check that element off and move

20   onto the element of claim 25.  Can you explain what this is?

21   A.  Okay.  So claim 25 talks about the interactive television

22   information system according to claim 24 wherein said

23   processor is one of a plurality of processors, each processor

24   being an assignable module to one of said home interface

25   controllers in interactive mode.

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                         802

```
 1   Q.  And, again, assignable module, what do you understand
 2   that to refer to?
 3   A.  The Court has already construed an assignable module to
 4   have its plain and ordinary meaning.  An assignable module
 5   once you the allocate a particular processor, and it is a
 6   module, which means you can take it and replace it, take the
 7   server and remove it and replace it by another server, or
 8   take the card and remove it and replace it by another card.
 9   That is what it is generally referring to.  And the claim
10   also talks about the interactive mode that we have defined it
11   earlier.
12   Q.  Is this element met by the FiOS TV system?
13   A.  It is.
14   Q.  Explain.
15   A.  So in the case of the NextGen system, the process server
16   we are talking about is the streaming server and its
17   underlying GigE card.  And the streaming server and its
18   underlying GigE card are allocated, they are assigned, and
19   they are a module.
20         And the same thing is true for the SeaChange system
21   where, once again, the Mediacluster server and its underlying
22   edge card are allocated, they are assigned, and they are a
23   module once again.
24   Q.  So it's the -- is claim 25 met by the FiOS TV system?
25   A.  It is.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                                    803

1   Q.   Let's check that off and look at claim 26.   Can you

2   explain what this is referring to?

3   A.   So claim 26 is the interactive television information

4   system according to claim 25, further comprising a network

5   manager for assigning and available one of said processors to

6   furnish interactive service to one of said home interface

7   controllers in interactive mode based on data obtained from

8   the data communication path so that the assignment of

9   processors to the home interface controller is accomplished

10  on a demand basis.

11  Q.   And is that met by the FiOS TV system?

12  A.   It is.

13  Q.   Please explain that.

14  A.   So in the case of the NextGen system, both the session

15  resource manager as well as the control server perform the

16  assignment in the sense that the session resource manager

17  assigns the control server, and then subsequently the control

18  server assigns the streaming server as well as the underlying

19  GigE card within the communication of the set-top box.   And

20  the same is true for the next element where -- for the

21  SeaChange system where you have a session resource manager,

22  which in connection with the connection manager provides the

23  assignment of the Mediacluster server as well as the edge

24  card within the Mediacluster server for streaming signals to

25  the set-top box.

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                           804

```
 1   Q.  So are the elements in claim 26 met by the FiOS TV
 2   system?
 3   A.  They are.
 4   Q.  So does that conclude all of your infringement analysis
 5   for claim 26, the '883 patent?
 6   A.  It does.
 7   Q.  And what conclusion have you reached regarding
 8   infringement?
 9   A.  Both the FiOS system with the NextGen VOD system as well
10   as with the SeaChange system infringe claim 26 of the '883
11   patent.
12   Q.  All right, Professor.  We've been talking about three of
13   the Hoarty paints.  Is there another patent that you
14   considered in connection with your work in the case?
15   A.  Yes, there is.
16   Q.  And what is that patent?
17   A.  So as I mentioned earlier, there were four patents.  So
18   far this has three of them, and the last one is a different
19   patent, it's the '582 patent which I sometimes referred to
20   earlier in my discussion as the frame server patent.
21   Q.  And you talked about earlier how the three patents you
22   talked about earlier today have the same description in the
23   patent.  Is that also true for this patent?
24   A.  No.  This is a different specification, not only a
25   different set of claims but different specification,
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          805

```
 1   different description.
 2   Q.  Can you just generally describe what this frame server
 3   patent is directed to?
 4   A.   Sure.  So the frame server patent has the following
 5   principles.  It is meant to be a dual platform patent.  So
 6   the idea behind the dual platform patent, is that instead of
 7   having an interactive television in the service platform, you
 8   have a separate platform that can offload a lot of deposits
 9   required for doing simple frequent requests for things like
10   webpage type thing, type information, which don't require as
11   much bandwidth, don't require as much processing, and so the
12   frame server is meant to handle a very large number of those
13   particular requests and offload and allow the interactive
14   television platform to handle the headend requirements for
15   processing and bandwidth required for doing video.
16   Q.  Now, Professor, would you explain what the relationship
17   is between this frame server patent and the other patents
18   you've discussed?
19   A.  So the frame server patent is meant to complement
20   something like interactive television patents that we
21   discussed previously.  Those focus exclusively on doing
22   something like Video On Demand services or interactive
23   television services that require a very large amount of
24   bandwidth, very large amount of processing, and this is meant
25   to complement it.
```

Schonfeld, D. - Direct                                              806

```
 1              And, in fact, if you go into the next slide, it was

 2    meant to provide something that would complement it and make

 3    the overall system more efficient, and it is actually

 4    referenced in the next slide.  You can actually see -- the

 5    patent actually discusses it in the context where it refers

 6    back to the original patent, the '578 patent in particular.

 7    Q.  Now, you referred to the frame server being used to send

 8    a certain kind of information.  Can you explain what you're

 9    referring to.

10    A.  So the type of information to distinguish from something

11    like a Video On Demand type information, the type of

12    information that a frame server would provide would be

13    something that is referred to as interactive pages.  And the

14    interactive pages is a term that has been construed by the

15    Court, and it is defined as pages that permit user

16    interaction, including still video frame images or multimedia

17    short script for interpretation by a local process such as a

18    typical page of HTML data as practiced by conventional web

19    browsers.

20    Q.  Can you give me an example of an interactive pages?

21    A.  So the kind of example of a interactive page would be

22    something simple like a simple static page from a website

23    such as a CNN page.  An example presented in the patent

24    itself and actually this is a picture from -- this is a

25    figure taken directly from the patent.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          807

```
 1    Q.  Now, if you just describe in practice how this dual
 2    platform system you are talking about would work.
 3    A.  Okay.  So if you wanted to do something like have the
 4    ability to view such a page, instead of through your
 5    computer, to view it through your television set, you would
 6    go -- you would have a dual platform system, which if you go
 7    to the next slide, the dual platform system would allow you
 8    to have access to the interactive controller platform.  That
 9    is the type of platform we discussed up till now in the other
10    three patents which requires a lot of bandwidth and a lot of
11    processing power.
12           If you were to do something like a Video On Demand
13    functionality but you'd also have access to a frame server
14    platform, to allow you to deal with a functionality that is
15    much simpler, much more frequent, and you do not want to
16    waste the resources of the interactive controller platform on
17    such functionality.
18           And if you go to next slide, you can see that the
19    frame server platform, instead of using it -- instead of
20    using something that would stream in home movie, we use the
21    frame server platform for streaming a single interactive
22    page.
23           If you go onto the next slide, you can see that if
24    you still wanted to have access to a movie, you would go back
25    to the interactive controller platform and then you'd use
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                        808

```
 1   those heavy resources that are required.
 2   Q.   Now, this dual platform system that you're referring to,
 3   is that described in the claims frame server patent?
 4   A.   It is.
 5   Q.   Can you explain that?
 6   A.   So if you look at the -- if you look at the claim, the
 7   claim is over here on the right-hand side and it has various
 8   elements.  I can go through shortly in detail.  But the first
 9   three elements are elements we have seen before.  The fourth
10   element is very similar to what we have studied.  It is just
11   the interactive processor in which requires much more
12   intensive bandwidth, much more intensive processing, and
13   that's the kind of interactive controller we have seen
14   earlier today.
15          In the new element for the dual platform would be
16   the frame server element that would allow you to actually
17   have access to the interactive pages separately and not
18   burden the interactive controller with request for simple
19   pages.
20   Q.   Now, on the FiOS TV system, does it use some sort of dual
21   platform system?
22   A.   It does.
23   Q.   Can you explain?
24   A.   So in the case of the FiOS system, it uses interactive
25   controllers we have already seen.  We have seen the NextGen
```

Schonfeld, D. - Direct                                                  809

```
 1   system, which relies on the Mediacluster server in its
 2   underlying -- sorry, let me take it back.  For the NextGen
 3   system, it relies on the streaming server and its underlying
 4   GigE card.  And then in the case of the SeaChange system, it
 5   relies on the Mediacluster server in it's underlying edge
 6   card.  Those correspond to the interactive processor.
 7          In terms of the frame server, there is three types
 8   of frame servers.  One of them relates to widgets, which is
 9   called a widget server, and the other two relates to Video On
10   Demand but not for the actual movie but just for information
11   about the movie, but kind of posters we saw earlier when I
12   was showing you the videos, that piece of information does
13   not come from the Video On Demand server.  It comes from a
14   separate server.  It used to be the CDAC server used by
15   SeaChange system and later it is now the IMG server.
16   Q.  Now, you had indicated that the first elements of the
17   claims are similar to what we looked at before.  Why don't we
18   walk through those, and I'll let you explain element by
19   element.  Why don't we put the first element of this claim
20   and you can explain.
21   A.  Okay.  So this is referring to an information service
22   distribution network for delivering information services from
23   a headend to a subscriber television, and this is precisely
24   what the FiOS network does.  It is an information service
25   distribution network, and it delivers information services
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          810

```
 1   all the way from the video hub office, from the VHO, through

 2   the VHO to the set-top box in the television screen.

 3   Q.  So this element is met by the FiOS TV system?

 4   A.  It is.

 5   Q.  Let's look at the next almost.  Can you explain what this

 6   is?

 7   A.  The next element is the plurality of home interface

 8   controllers, each home interface controller associated with a

 9   subscriber television and having a data transceiver operated

10   over a data communication link to the headend.

11   Q.  And is that met by the FiOS TV system?

12   A.  It is met -- it is met by the FiOS TV system.  In

13   particular it is met by the set-top boxes and the set-top box

14   allow communication over the transceivers all the way to the

15   video hub offices.  We have gone through that discussion in

16   detail earlier.

17   Q.  Go to the next element.  Check that element off for the

18   next element.  Can you explain what this?

19   A.  This is referring to the plurality of subscriber

20   selection devices.  Each such device associated with a home

21   interface controller in communication with the data

22   transceiver thereof.  And so, once again, the selection

23   device is the remote controller that we have seen all the way

24   through, and it is in communication with the data transceiver

25   and the signals go all the way up to the headend.  So this is
```

Schonfeld, D. - Direct                                    811

```
 1    true for both the SeaChange as well as NextGen system.
 2    Q.   Let's check that element and look at the next element of
 3    the claim.  Can you explain this?
 4    A.   Sure.  So this is a plurality of individually assignable
 5    processors disposed at the headend in assignable data
 6    communication within assigned home interface controller and
 7    in television communication over the network with the
 8    subscriber television associated with the assigned home
 9    interface controller.
10    Q.   And has the Court interpreted the individually assignable
11    processors term?
12    A.   It has.
13    Q.   Can you explain that?
14    A.   So the claim -- the construction provided by the Court of
15    individually assignable processors are processors that are
16    capable of being assigned on a one-to-one basis to home
17    interface controllers.
18    Q.   And did you use this instruction in your analysis?
19    A.   I did.
20    Q.   And is this element met by the FiOS TV system?
21    A.   It is.
22    Q.   Can you explain that, please?
23    A.   So if you look at the case of the NextGen system, and you
24    have a control server in the Video On Demand streaming and
25    then you have a streaming server in the GigE card, all of
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                              812

 1   which are assigned in response to a home interface

 2   controller.  The assignment itself is done on a one-to-one

 3   basis.  And in particular -- it provides for television

 4   communication as required -- as required over the network all

 5   the way down to the home interface controller.  So there is

 6   television communication allowing streaming from the

 7   streaming server and the GigE card all the way down to the

 8   home interface controller.  And if we go on to the SeaChange

 9   system, the same is true over here.  We have the Mediacluster

10   server and the underlying edge card.  Those are again

11   assignable on a one-to-one basis.  They are capable of being

12   assigned on a one-to-one basis and provide television

13   communication and streaming all the way down the set-top box.

14   Q.  So is this element met for the FiOS TV system?

15   A.  It is.

16   Q.  Okay.  Now leaves us with the last element that refers to

17   the frame server.  And, first of all, can you explain for the

18   jury, do you conclude whether the FiOS TV system has such a

19   frame server?

20   A.  Yes, they do.

21   Q.  And what do they have that corresponds to that element?

22   A.  So as I mentioned in terms of the frame server itself,

23   there are two categories.  The first one is something called

24   the widgets, which are simple programs for doing simple

25   tasks.  And those are provided by widget server shown over

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                        813

1    here.  And then there is a separate category that I will

2    discuss later which has to do with Video On Demand catalogs.

3            Those are the kind of posters and information that

4    is provided when you choose a Video On Demand service, and

5    those are provided in the form of a CDAC server or -- and

6    then later an IMG server.

7    Q.  Professor, just for a moment we are looking at in this

8    figure, Plaintiff's Exhibit 60, which has been previously

9    admitted, but can you just describe what is being depicted

10   here and where this equipment is actually located in the FiOS

11   TV system?

12   A.  Okay.  So if you look at this figure closely, you'll see

13   on the very left-hand side there is an STB that is the

14   set-top box on the very far left right above the PC and BHR.

15   And then you will see the equipment that I've identified.

16   There is a Video On Demand server that is not -- the Video On

17   Demand server is part of the interactive TV server, the heavy

18   processor, and then you have a frame server for widgets

19   depicted over here, the second one down.  And then the one on

20   the bottom is a frame server for VOD catalogs referred to as

21   IPG.  And so the two in green are the two frame servers.

22   Q.  And specifically in what facility of the FiOS TV system,

23   where are those located?

24   A.  So actually it's a little harder to see but if you look

25   there, there is a box around and it says on top VHO.  That is

Schonfeld, D. - Direct                                          814

```
 1   the video hub office where they reside.
 2   Q.   And so that's the same place you showed photos of; is
 3   that correct?
 4   A.   That's correct.
 5   Q.   And so where in your photos would that equipment have
 6   been located?
 7   A.   It would be -- if we saw the door earlier, it would be to
 8   the back -- it would be back away from the door and to the
 9   left.
10   Q.   Now, we have a demonstrative video we'd like to play just
11   showing how the user interface operates for some of these
12   widgets and other things if we could publish that to the
13   jury.
14           THE COURT:  All right.  Any objection to the video,
15   the demo?
16           MR. GUTMAN:  No, as a demonstrative, Your Honor.
17           THE COURT:  Okay.  Only for demonstrative purposes.
18   BY MR. GUTMAN:
19   Q.   Play this video, and, Professor, if you could explain
20   what we are looking at here.
21   A.   So if we continue, and so we are going through the menu
22   system, and through the menu system we want to choose the
23   widgets operation on the left column of the television
24   screen, and so that allows us to have access to the widgets.
25           And within the widgets we can choose a whole array
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          815

```
 1   of different applications, different widgets provided.  You
 2   can play the video.  And then at that point now it is loading
 3   the widgets option, and you can see a number of widgets
 4   available that are listed over here.  And the one on the
 5   right is the Home Shopping Network or shop by remote.  And
 6   this is selected.  And now it's loading.  Again, it is asking
 7   to wait.  And so it is downloading the image, and you can see
 8   this -- all the information on the screen is based on
 9   information provided and generated in the widget server
10   itself.
11           And then you can just simply navigate through one
12   interactive page after the other by going through different
13   options on this particular screen of the Home Shopping
14   Network.
15   BY MR. LYONS:
16   Q.  Thank you, Professor.  So could you explain in a little
17   more detail exactly how these widgets operate and what they
18   do.
19   A.  You want me to go through the entire operation?
20   Q.  Yeah.  If you could just describe some of the different
21   widgets that are available on the system.
22   A.  Okay.  If we go back -- if we go to the next slide, and
23   the one after that.  So here we see an example of loading a
24   widget, which is called a hot on demand.  It is one of an
25   array.  You heard earlier Mr. Kassam talk about widgets in
```

Schonfeld, D. - Direct                                              816

```
 1   the video deposition, and he listed the fact that a whole
 2   array of widgets, and they are constantly changing.  So
 3   people load and remove widgets all the time, and hot on
 4   demand is one of the widgets available, and you can see how
 5   it is loading up on top.
 6            And the next one, the one after that, if we go onto
 7   the next slide, it will be a horoscope widget, so you can
 8   just press a button on the remote and it will give you your
 9   horoscope information.  And then it is a similar
10   functionality.  And the next one after that would be widgets.
11   If you go to the next slide would be a widgets for motorcycle
12   ads.  So advertisements would be another example of widgets
13   that are available.  And the number of widgets is much larger
14   than that.
15   Q.  Now, are there different kinds of widgets provided in the
16   FiOS TV system?
17   A.  There are different types of widgets.
18   Q.  Can you explain that?
19   A.  Well, there are different widgets.  Some of them are
20   referred to as resident widgets which reside on the set-top
21   box, and they include traffic, headline news, sports
22   headlines, horoscope and community widgets.  And there are
23   other widgets that require a downloading regularly of the
24   widgets from the server itself.
25   Q.  Focusing on headline widgets, how do they interact with
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                              817

1   the server?

2   A.   So if you go to the next slide, so here it shows two

3   types of widgets, one of which -- it says over here on the

4   left, widgets still on the IMG FE which are based on the IMG

5   servers, and widgets on the bottom on the EF, it is an

6   enhanced services, which is the widget server.  And you can

7   see on the call signals on the side, each shows both the IMG

8   servers, that is the middle column, and the widget servers,

9   that the second from the left, the ES column, and as the

10  information, for example, for get weather, which is the first

11  line going from the STB to the IMG server, arrives at the IMG

12  server.  It subsequently goes to the data center to retrieve

13  information that in turn may go to the data source to get

14  information about weather, depending on your zip code, and

15  that information is then retrieved by the IMG server and sent

16  back to the set-top box.

17          And in the case of another application, which

18  resides on the widget server itself, in that particular case

19  you have a command, you have data that is a line shown --

20  yeah.  Over here.  It will be second from the bottom on the

21  left side.  And that would go from the set-top box to the

22  widget server, and then in turn, in response to information

23  that it means it will go to the data center once again, and

24  then go to the data source from there, if needed, retrieve

25  the information that is needed, and then send information

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          818

1   back in the form, in both cases in the form of XML files that

2   will contain data to the set-top box.

3   Q.   Okay.   What other kinds of widgets are there?

4   A.   There is another class of widgets, if we go onto the next

5   slide, which are referred to as Lua widgets, and those are

6   widgets where you download the entire application and the

7   data.   So you download the program that specifies the

8   application as well as the data in order to be able to use

9   that particular widgets.   And Lua just refers to a particular

10  name of the program language.   And this list is a list

11  provided by Mr. Kassam in his deposition of some of the

12  widgets available.

13  Q.   Why don't we just look at the first one in the list

14  there, the Facebook widget.   Can you -- or Facebook Lua

15  widget.   Can you describe how that widget interacts with the

16  set-top box server?

17  A.   If we go to the next slide.   So when you use the Facebook

18  widget, the goal of the Facebook widget is to be able to

19  allow you to retrieve information from the Facebook server or

20  from the Facebook -- similar information that is available in

21  your Facebook account.

22          And so you generate the request, and that in turn

23  goes all the way up to a Facebook server which contains data

24  about your webpage, not the actual webpage, but it contains

25  data about the webpage such as images that you have stored,

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                    819

```
 1    text and information about friends, and so on, and it can --

 2    it retrieves those JPEG images and the data, sends it back

 3    and then ultimately sends it back all the way to the set-top

 4    box.

 5    Q.  Why don't we go back to the claim, then, and talk about

 6    whether this claim element is met by the FiOS TV system.

 7    And, first of all, can you explain what this claim element is

 8    directed to?

 9    A.  Well, this is the frame server element.  It's the last

10    limitation of claim 5 of the '582 patent that we discussed

11    earlier.

12    Q.  And can you explain -- why don't we break this into

13    sections, but can you explain generally what this claim

14    refers to?

15    A.  This refers to the functionality required by the frame

16    server.  So all -- the limitation is -- specifies what the

17    frame server is required to do.

18    Q.  Now, looking specifically at the language of -- that

19    requires a home interface controllers each assigned to one of

20    a plurality of processes running in said frame server, can

21    you explain what that means?

22    A.  Okay.  So in this case it talks about having a plurality

23    of processes.  So you have to have a frame server that

24    contains multiple processes, and every time a home interface

25    controller, a set-top box establishes contact, it's assigned
```

Schonfeld, D. - Direct                                          820

```
 1    to one or the other of those processes.
 2              And in particular in the case of the widget server,
 3    which is what we are referring to right now, you have -- when
 4    you go, let's say, to Facebook, there is a special specific
 5    process that is assigned to Facebook, to the Facebook widget,
 6    which is activated.  And if you were to use a different
 7    widget, it would assign to that other widget.
 8              And in addition to that, when you first contact --
 9    when you first reach the widget server, there is an internet
10    syndication service, an IAS service provided which simply
11    determines whether you are authorized to actually use the
12    widget service.  And that is generated in response to each
13    and every request.
14    Q.  Now, is that element of the claim met by the FiOS TV
15    system?
16    A.  It is.
17    Q.  And can you explain how you concluded that?
18    A.  So the information I just obtained is directly obtained
19    from Mr. Kassam about the internet syndication service, and
20    the videotape deposition you saw earlier, and this is the
21    text of the deposition stating that this is with regards to
22    the internet syndication service on the widget server.
23              And if you go onto the next slide, the -- another
24    person involved in this case has actually identified in the
25    source code the actual process associated with the Facebook
```

Schonfeld, D. - Direct                                    821

```
 1   API when you go onto the widget server, and has outlined it
 2   in their report.
 3   Q.  Before we go on, the next portion of this limitation,
 4   which says, said processes receiving data communications from
 5   the subscribers associated with their respective assigned
 6   home interface controllers, is that met by the FiOS system?
 7   A.  It is.
 8   Q.  Can you explain how you concluded that?
 9   A.  So in this particular case, if you go onto the next
10   slide, we see, for example, the Facebook widget.  And in this
11   case it goes over the FiOS system and communicates with the
12   widget server by communicating from the set-top box to the
13   video hub office and in particular to the widget server
14   within the video home office in both directions.
15   Q.  So that portion of the claim is met?
16   A.  Yeah.  And if we go onto the next slide you should be
17   able to see the arrow in the reverse direction showing the
18   communication is actually bi-directional.
19   Q.  And that satisfies the language of that claim?
20   A.  It does.
21   Q.  The next portion of the claim said, frame server
22   generating interactive pages responsive to the data
23   communications.  Is that portion of the claim met?
24   A.  It is.
25   Q.  Explain.
```

Schonfeld, D. - Direct                                          822

1   A.   So we spoke about the Facebook, the Facebook widget, and

2   so when you go into the -- when you go, for example, into the

3   widget server and there is a request for information from

4   Facebook, as I mentioned earlier, this will route you all the

5   way down to the Facebook server.  It will retrieve images

6   that you are asking for in the form of JPEG.  It will

7   retrieve data that you are asking for, embed all of it in an

8   XML file and send it back all the way to the set-top box

9   where it is actually rendered and displayed on a television

10  screen.

11          And we saw earlier other examples.  For example, we

12  saw the -- well, I think that is probably -- the other

13  example is in an additional server.

14  Q.   So this element of the claim is met?

15  A.   It is.

16  Q.   And let's look at the last portion of this claim.  This

17  portion of the claim also -- first of all, why don't you

18  explain what this is referring to.

19  A.   This is talking about the frame server generating

20  interactive pages responsive to the data communications,

21  which we just read, and supplying the interactive pages to

22  the subscriber television associated with the assigned home

23  interface controller in digitally encoded television signals

24  over the information service distribution network.

25          So the essence of it is just a complete loop to make

Schonfeld, D. - Direct                                     823

1    sure that the information is not only generated but

2    ultimately supplied to the set-top box in the digital form.

3    Q.   And so does this meet the FiOS TV system element?

4    A.   It does.

5    Q.   Explain that.

6    A.   So, again, by example, if we go back to the Facebook --

7    if we go back to the Facebook widget, we see the last signal

8    in the call load providing the actual return, which is a Lua

9    table containing information in the form of text and JPEG

10   images and also potentially Lua scripts which are ultimately

11   then rendered on the set-top box and displayed on the

12   television screen, and that information is in digital form.

13   Q.   And so what have you concluded about the FiOS TV system

14   as it reaches the platforms and the widget server?

15   A.   And so I think that in terms of the VOD platform, and are

16   you talking about the VOD catalogs or just the VOD platform

17   itself?

18   Q.   Just right now we are talking about the VOD platform and

19   the widget server.

20   A.   Okay.  So with regards to the VOD -- the interactive

21   controller platform, along with the widget server, that meets

22   all of the limitations of claim 5 of the '582 patent.

23   Q.   You referred earlier in your testimony to other frame

24   servers.  Are there any other frame server in the FiOS TV

25   system?

Schonfeld, D. - Direct                                                    824

1   A.   There are.

2   Q.   And what are those?

3   A.   Those are frame servers having to do with the Video On

4   Demand catalog.  So those are Video On Demand functionalities

5   but not involved in trick play or in the actual streaming of

6   the movie but only involved in giving you information to make

7   a selection of the Video On Demand movie itself.

8   Q.   Can you explain how the Verizon's Video On Demand catalog

9   works?

10  A.   Yeah, sure.  So if we go onto the next slide, we have

11  seen much of this before.  So if we go to Video On Demand, we

12  have various options, and so we go into the IMG, that is the

13  interactive media guide, which communicates with the

14  interactive media guide server on the video hub office, and

15  it provides -- if we go to the next slide -- when we make

16  selections, it actually goes on.

17         In this case we just simply selected Video On

18  Demand.  And we select Video On Demand, in the next slide, it

19  provides us the selection to various options, both in terms

20  of title, catalog, posters, so all of this information has to

21  be retrieved from Video On Demand catalog server or the IMG

22  server, which used to be SeaDAC server in the case of the

23  SeaChange system.

24  Q.   Why don't you describe where this video, VOD catalog

25  information came from in the various time periods for the

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                        825

1  FiOS TV system.

2  A.   So if we go to the next slide, we see that for the

3  SeaChange system, there was a SeaDAC server as part of the

4  command service that we discussed earlier that had nothing to

5  do with the actual Video On Demand streaming.  It was

6  restricted to providing this kind of data that we just saw

7  right now; titles, posters, categories, this type of

8  information.

9        And this is discussed in the documents that we saw

10  earlier in the form of providing metadata, configuration

11  file, all responsive to request from the library.

12  Q.   Now, what made these pages interactive?

13  A.   The pages were interactive in the sense that you could

14  click on any one of the selections and it will provide you

15  the next piece of information.  If you chose a category, it

16  will give you a list of movies or posters relating to it.

17        We saw earlier in the earlier video this morning

18  where, as you recall, were in Casablanca mode, and there was

19  a button for pressing more like this, and it gave you an

20  array of movies that were unrelated -- that were related to

21  Casablanca, which the system felt that you, based on your

22  best habits, would be interested in seeing.

23        So if you were interested in Casablanca and a few

24  other movies in the past, you might be interested in Top Gun

25  or another movie like that.  So all of these things are --

Schonfeld, D. - Direct                                          826

```
 1   provide you interactivity and allow two-way communication
 2   between the set-top box and the server in the video hub
 3   office.
 4   Q.   Professor, you described how these VOD catalogs were
 5   supplied with the SeaChange system.  How is it done now?
 6   A.   So today the same functionality has been taken over by
 7   the interactive media guide or the IMG server.
 8   Q.   And tell us --
 9   A.   I'm sorry.
10   Q.   I'm sorry.  Can you explain how that works?
11   A.   So if you go to the next slide, you will see the type of
12   schematic we saw earlier where in this case, drawing your
13   attention to this particular Video On Demand catalog server,
14   which is listed with IPG, interactive program guide, referred
15   to earlier as IMG, which is interactive media guide.
16   Q.   And how does the user interact with that page?
17   A.   So if we go to the next slide, when you have a selection
18   of posters, for example, you can choose on any one of them,
19   and then it will provide you with additional information.  So
20   usually provides information in the form of folders or
21   posters and different ways of representing information about
22   the movie, depending on the actual VOD service that you are
23   actually looking at.
24   Q.   Is all this information just stored on the set-top box?
25   A.   The pictures and the text?  No, none of it.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                            827

1   Q.   Where does that come from?

2   A.   It all comes from the IMG server, and at times the IMG

3   server actually has to obtain it from somewhere else.  If you

4   go onto the next slide, it shows, for example, up on top

5   there, the VOD posters, and if you see there is a request for

6   get VOD assets and metadata for folders sent from the set-top

7   box to the Video on Demand server, and what is returned back

8   to the set-top box are actual metadata, posters and images

9   and other such things that are all obtained through those

10  servers.

11         And you can see similar things in the next slide

12  where it provides information for a folder.  So depends on

13  the server, you get folders or posters.  So once again --

14  Q.   This diagram, maybe you can just explain what is the IMG

15  client and the IMG server?  What is that talking about?

16  A.   So the IMG client is a software residing on the set-top

17  box.  And the IMG client is in communication with software

18  residing on the server, which is what the IMG server is

19  referring to.  So this is just a label for the software

20  residing on the set-top box on the left and on the IMG server

21  on the right.

22  Q.   And this is a figure out of Plaintiff's Exhibit 19, the

23  previous exhibit?

24  A.   That's correct.

25  Q.   Now, where in the overall FiOS TV system is the IMG

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          828

```
 1   server located?
 2   A.   The IMG server is located right next to the widget
 3   server.
 4   Q.   And where and what facility of FiOS TV is that?
 5   A.   It is all part of the video hub office, the VHO.
 6   Q.   Is that shown in Plaintiff's Exhibit 16?
 7   A.   Yeah.  You can see over here on the one in blue is the
 8   IMG server and the set-top box is at home.  So the IMG client
 9   we just saw would reside on the set-top box and would
10   communicate with the IMG server in the video hub office.
11   Q.   Now, does this depict the communication path between the
12   set-top box and that server?
13   A.   It does.
14   Q.   And is that also shown elsewhere in the exhibit
15   Plaintiff's Exhibit 19?
16   A.   Yeah.  If you look at the next one, the one corresponding
17   to the poster view, you have a similar communication in the
18   next slide.
19   Q.   Now, you've already talked about the widget server in
20   combination with the community platform.  Can you now give me
21   your opinion about whether the FiOS TV system with its VOD
22   platform in combination with the VOD catalog server, the IMG
23   server, whether that infringes claim 5 of the '582 patent?
24   A.   It does.
25   Q.   Now, have you considered any other claims of the '582
```

Schonfeld, D. - Direct                                        829

```
 1   patent in your analysis?
 2   A.   Yeah.   I've considered claim 7 of the '582 patent as
 3   well.
 4   Q.   Take a look at that.   Can you explain what that refers
 5   to?
 6   A.   So this refers to -- it is a dependent claim which
 7   depends on claim 5 so it has to satisfy all the limitations
 8   of claim 5 in which refers to the backup cable system of
 9   claim 5 wherein said information service distribution network
10   comprises a plurality of cables each serving a different
11   service area and wherein the interactive cable system further
12   comprises a switch for directing each television signal from
13   one of said plurality of individually assignable processors
14   to the cable serving the service area in which the respective
15   assigned home interface controller is served.
16   Q.   And is this claim met by the FiOS TV system?
17   A.   It is.
18   Q.   Can you explain that?
19   A.   So if we go back to the FiOS network, and we see that
20   each of the video hub offices is connected to multiple video
21   serving offices, and the video serving offices provide
22   signals to a smaller group of users in the homes nearby, and
23   there is a router that routes information in a switch, as
24   well, that sends the signals all the way from the controller
25   in the video hub office to the correct video serving office
```

Schonfeld, D. - Direct                                    830

```
 1   depending on the user.  And that is true for both the

 2   SeaChange as well as the NextGen Video On Demand system.

 3   Q.  And so is this claim infringement of FiOS TV system?

 4   A.  It is.

 5   Q.  And have you considered any other claims of the patent

 6   are infringed by FiOS TV?

 7   A.  Yeah.  The next and final claim in the '582 patent is

 8   claim 8.

 9   Q.  Can you explain this claim?

10   A.  So this again depends now on claim 7 which in turn

11   depended on claim 5.  And so this calls for the interactive

12   cable system of claim 7 further comprising a common channel

13   transmitted throughout said information service distribution

14   network for carrying the digitally encoded television signals

15   from said frame server.

16   Q.  And is this met by the FiOS TV system?

17   A.  It is.

18   Q.  Please explain.

19   A.  So if we go to the definition of the Court of what a

20   common channel is, the common channel is a single digital

21   channel for carrying television signals from a frame server

22   to subscribers.  And so if you go to the next slide, we

23   recalled the video hub office is digital signal capability in

24   both downstream and upstream, and so the downstream component

25   would go over the super trunk or the edge modulation to the
```

Schonfeld, D. - Direct                                              831

```
 1   video service office, and from there it would go over one of

 2   those labelling all the way down to the user's home.

 3   Q.  So have you reached a conclusion about whether this claim

 4   is infringed by the FiOS TV system?

 5   A.  I have.

 6   Q.  And what is your conclusion?

 7   A.  It is infringed.

 8   Q.  Just one last question, Professor, and that is what is

 9   the various services are used in the FiOS TV system that made

10   use of, for example, the VOD platform?

11   A.  So the VOD platform would be used for doing Video On

12   Demand, transactional Video On Demand, advertising.  There

13   are a whole array of different applications that rely on the

14   Video On Demand platform.

15           MR. LYONS:  Thank you, Professor. Nothing further.

16           THE COURT:  Ladies and gentlemen, this is probably a

17   good time to take a break here.  So we are going to be in

18   recess for approximately 15 minutes.  All rise.

19           (Jury out at 3:51 p.m.)

20           THE COURT:  Court is in recess for 15 minutes.

21           (Recess from 3:52 p.m. to 4:10 p.m.)

22           THE COURT:  Be seated.  Gentlemen, the Court's going

23   to probably end about 5:20.  I usually try to run to 5:30,

24   but I'm going to have to end at about 5:20, just for your

25   planning purposes.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Direct                                          832

```
1          All right.  Oh, one other thing, just in case I

2   forget this, since we are moving pretty quickly.  When the

3   Court indicated Mr. Stillman, that he could be absent because

4   of his involvement in the other case, that case ended, so the

5   Court fully expected local counsel would be here throughout

6   the proceedings.  So I don't know what is happening here, but

7   the Court has not authorized you to literally substitute

8   local counsel.

9          MR. VanNORMAN:  Your Honor, I'm Brent VanNorman.

10  I'm on the pleadings.  I'm local counsel at Hunton and

11  Williams here in Norfolk.

12         THE COURT:  I know that, but who else is local?  Is

13  Mr. Stillman local counsel, too?

14         MR.  VanNORMAN:  Yes.

15         THE COURT:  The Court's practice is, unless you ask

16  to be excused, then you are here.  Otherwise, we have which

17  counsel here?  Mr. Noona, everybody in his firm want to be

18  rotating in and out of here.  So if you are going to do that,

19  that needs to be cleared.  That has not been cleared.

20         MR.  VanNORMAN:  Yes, Your Honor.

21         THE COURT:  Okay.  So you gentlemen talk it over

22  tonight who is going to be here in terms of being local

23  counsel in the case.  I noticed you are here this morning and

24  he's gone.  We told the jury he's in the case, and then he is

25  not in the case.  That is not usually the way the Court
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                           833

```
 1   operates.  He's in the case, he is in here.
 2            MR. GUTMAN:  We will straighten it out, Your Honor.
 3            THE COURT:  All right.  Okay.  Bring in the jury.
 4            (Jury in at 4:11 p.m.)
 5            THE COURT:  You may be seated.  Let the record
 6   reflect that all jurors are present in the courtroom.  Does
 7   counsel agree?
 8            MR. GUTMAN:  Yes.
 9            MR. LYONS:  Yes, Your Honor.
10            THE COURT:  All right.  Cross-examination.
11            MR. GUTMAN:  Thank you, Your Honor.
12                       CROSS-EXAMINATION
13   BY MR. GUTMAN:
14   Q.  Good afternoon, Dr. Schonfeld.
15   A.  Good afternoon.
16   Q.  Now, prior to your testimony here you prepared, in
17   accordance with the procedural rules, reports concerning your
18   testimony, correct?
19   A.  That's correct, yeah.
20   Q.  And there were three of them in all?
21   A.  That's correct.
22   Q.  Okay.  And do you have those up there?
23   A.  I have just one.
24   Q.  Just one.  Let's, if I may, Your Honor, I'd like to give
25   the witness all three.
```

Schonfeld, D. - Cross                                          834

```
 1            THE COURT:  Okay.
 2   BY MR. GUTMAN:
 3   Q.  Are you ready?
 4   A.  Yeah.
 5   Q.  Now, you were here in the courtroom, weren't you,
 6   Dr. Schonfeld, when Mr. Hoarty testified?
 7   A.  Only a portion of the time, not all of it.
 8   Q.  No.  Let's see what you heard.  Were you here when he
 9   testified that he didn't invent Video On Demand?
10   A.  I believe so, yeah.
11   Q.  Were you here when he testified that he didn't invent
12   interactive television?
13   A.  I was here.  I'm not -- I think he's testified that he
14   invented an efficient way of doing interactive television.
15   Q.  But he didn't invent interactive television, right?
16   A.  I think in response to that question he didn't say yes or
17   no.  He just said he invented an efficient way of doing it.
18   Q.  You don't remember him saying that he didn't invent
19   interactive television?
20   A.  He may have.  I don't remember.
21   Q.  And he also said he didn't invent headends, right?
22   A.  I believe so.  I don't remember the specifics.  I just
23   remembered he said he didn't invent a list of things.
24   Q.  Right.  And he didn't invent set-top boxes, right?
25   A.  I believe that's what he said.
```

Schonfeld, D. - Cross                                          835

```
 1   Q.  And he didn't reinvent remote controls?
 2   A.  Again, it would make sense but I don't remember the
 3   specific list that you gave him.
 4   Q.  He didn't invent touch pads?
 5   A.  Yeah, I believe that was one of them.
 6   Q.  He didn't invent having a processor in the headend that
 7   would receive a request to provide information down to a
 8   subscriber based on the subscriber request, correct?
 9   A.  I don't remember him saying something like that.
10   Q.  Well, look at the transcript, sir.
11   A.  I believe you.  I just don't remember.
12   Q.  Did you hear him testify that he didn't invent delivering
13   content that's uniquely identified for a particular
14   subscriber set-top box?
15   A.  Again, I don't remember that line of questioning.  I may
16   have been here, and if I was here, I don't remember the
17   specifics.  I remember the earlier ones where you asked him
18   if he invented the set-top box and he said no, or Video On
19   Demand and he said no.  But I don't remember the longer ones.
20   Q.  Do you want to see the transcript or will you accept my
21   representation, sir?
22   A.  I believe you.
23   Q.  Did you hear him testify that he didn't invent digital
24   encoding of data?
25   A.  I think that was on the list that I heard.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                          836

```
 1   Q.  Did you hear him testify that he didn't invent
 2   addressable packets?
 3   A.  Yeah, I don't remember it but I'm sure he would say that.
 4   Q.  Did you hear him testify that he didn't invent
 5   transmission of data using addressable packets in cable
 6   television networks?
 7   A.  I don't remember it, but if you say he did, then I
 8   believe you.
 9   Q.  Did you hear him say that he didn't invent transmission
10   of full loaded video using addressable packets in the cable
11   television network?
12        MR. LYONS:  Your Honor, I'm going to object to the
13   foundation.  The witness has said --
14        THE COURT:  If he doesn't remember, then what you're
15   going to have to do is show him the transcript of the
16   testimony to refresh his recollection or something.  He's
17   saying he doesn't remember.
18        MR. GUTMAN:  I'm just asking if he was here and
19   remembers him saying that.
20        THE COURT:  If you don't remember it, you don't
21   recall it, just say you don't recall it, and we move along.
22        THE WITNESS:  Yes, I don't recall the specific list.
23   BY MR. GUTMAN:
24   Q.  Did you hear him testify that he didn't invent
25   interactive gaming?
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                          837

```
 1   A.  I think that was part of the list that I remember but
 2   very vaguely, I'm just speculating.
 3   Q.  Did you hear him testify that he didn't invent fiberoptic
 4   transport networks?
 5   A.  I think -- again, I have a vague memory of the list that
 6   you asked him, but I think this was on it, but I'm not a
 7   hundred percent certain.
 8   Q.  Did you hear him testify that he didn't invent the use of
 9   fiberoptic cables?
10   A.  It sounds familiar to me but, again, I don't remember the
11   exact list.
12   Q.  Did you hear him testify that he didn't invent optical
13   multiplex?
14   A.  I'm pretty certain I remember that one, yeah.
15   Q.  Did you hear him testify that he didn't invent Pay Per
16   View?
17   A.  I think that was on the list but, again, I don't remember
18   the specifics.
19   Q.  Okay.  Now, there are ways, if Mr. Hoarty didn't invent
20   Video On Demand, and that is one you do remember, right?
21   A.  I believe so, yeah.
22   Q.  If he didn't invent Video On Demand, then there are other
23   ways to deliver Video On Demand that don't infringe; isn't
24   that right?
25   A.  I'm not --
```

Schonfeld, D. - Cross                                              838

```
 1              THE COURT:  If you are going to answer, keep your
 2   voice up clearly so I can understand what you're saying.
 3              THE WITNESS:  Yeah, I just -- I'm not sure whether
 4   Video On Demand was on the list, and secondly, I just -- I
 5   would have to know the context in which it was invented to
 6   answer that question.
 7   BY MR. GUTMAN:
 8   Q.  So you don't know, is that your testimony, whether there
 9   are other ways to do Video On Demand that wouldn't infringe
10   the patent?
11   A.  Oh, I think I testified myself that you can actually
12   store, for example, video on your own server at home.  You
13   can do it by yourself.  There are other ways of doing it.
14   But I know if you're asking me about my own statement, not
15   Mr. Hoarty's statement, yeah, there are other ways of doing
16   Video On Demand.
17   Q.  And there are other ways to do interactive television
18   that doesn't infringe these patents, right?
19   A.  You could do interactive television in a way that would
20   not infringe his patents, may not work as well, but you could
21   do it in alternative ways as long as you do not meet one of
22   the limitations.
23   Q.  Right.  Because you understand, as an expert witness in
24   the patent case, that for there to be infringement, you have
25   to show that each and every element of a claim is met by
```

Schonfeld, D. - Cross                                        839

```
 1   these products, right?
 2   A.   That's correct.
 3   Q.   You don't show infringement by showing four out of five
 4   or eight out of nine, right?  Every one?
 5   A.   That's correct.
 6   Q.   Okay.  And for those dependent claims that you looked at,
 7   you have to show infringement of every element of the
 8   independent claim and then every additional element of the
 9   dependent claim for there to be infringement, right?
10   A.   As well as other dependent claims in cases it is more
11   than one independent claim.
12   Q.   Correct.  Correct.  Now, in your description of the FiOS
13   system, you talked about all sorts of equipment provided by
14   people other than Verizon.  Do you recall that testimony?
15   A.   That's correct, yeah.
16   Q.   Cisco, right?
17   A.   Yes.
18   Q.   Ericsson, right?
19   A.   That's right.
20   Q.   Tanburg?
21   A.   It's the same as Ericsson, but that's right.
22   Q.   SeaChange?
23   A.   SeaChange, that's correct.
24   Q.   Motorola?
25   A.   For the -- not for the FiOS system, for the set-top box.
```

Schonfeld, D. - Cross                                      840

```
 1   Q.  For the set-top box.  Well, is that not part of the

 2   system?

 3   A.  Well, that is part of the overall system, yeah.  But I

 4   thought you were asking about the FiOS network in particular.

 5   Q.  Now, which of those other companies infringe these

 6   patents?

 7           MR. LYONS:  Objection, foundation.

 8           THE COURT:  Objection sustained.  That is not -- you

 9   are not here on the charge if they infringe.  It is Verizon

10   in the branch.

11   BY MR. GUTMAN:

12   Q.  Well, these other companies provided pieces of the

13   system, right?

14   A.  When you build a cable television system, many companies

15   contribute various pieces of the system, and these are the

16   companies that did provide.

17   Q.  Do you have an opinion, sir, as to whether any of these

18   other companies infringe, as well?

19           THE COURT:  Objection sustained.  I sustained that

20   now, Mr. Gutman.  That is not what we are here on.  You know

21   it.  He knows it.  Go back to whether or not Verizon infringe

22   on the FiOS product, not every piece of the product when you

23   dissect the product.

24   BY MR. GUTMAN:

25   Q.  You testified about something called fire and forget?
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                          841

```
 1  A.   I mentioned it in my earlier tutorial description of the
 2  general technology, yeah.
 3  Q.   Does fire and forget infringe or would fire and forget
 4  infringe?
 5  A.   Well, fire and forget is just a technology to determine
 6  infringement.  I have to do the same kind of analysis I did
 7  here, which is to understand the entire system.
 8            THE COURT:  That is what the Court just ruled on
 9  again.  I don't know what about the Court's ruling is not
10  clear.
11            MR. GUTMAN:  Your Honor --
12            THE COURT:  Wait a minute.  Perhaps hundreds of
13  people had something they built in this system.  We are not
14  going to ask whether everybody that contributed anything to
15  the ultimate product infringed.  So that line of questioning
16  is ended.
17            MR. GUTMAN:  This was a different line, Your Honor.
18            THE COURT:  Well, if it is like the last one, that
19  is sustained, too.
20            MR. GUTMAN:  This was a description of the prior
21  art.  I just wanted to ask him whether that -- whether in his
22  view -- this was in his testimony he said that fire and
23  forget was something that was done before.
24            THE COURT:  Once again, we are not on whether fire
25  and forget or not infringed.  We are on whether or not
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                         842

```
 1   Verizon FiOS system infringed and what's before the Court and
 2   the jury infringed.
 3   BY MR. GUTMAN:
 4   Q.   Now, earlier you testified, Dr. Schonfeld, that there
 5   were four problems that the Hoarty patents addressed; is that
 6   right?
 7   A.   That's correct.
 8   Q.   Set-top box limitations, two-way communications
 9   challenges, bandwidth limitations, and interactive processing
10   demands; is that correct?
11   A.   That's correct.
12   Q.   And you're not suggesting that Mr. Hoarty came up with
13   the only solutions for those problems, are you?
14   A.   No, not necessarily.
15   Q.   And those problems haven't been solved by what Mr. Hoarty
16   did, right?
17   A.   Yes.
18   Q.   They continue to be issues in the industry?
19   A.   Well, the solution that Mr. Hoarty provided alleviated
20   those problems significantly, but whenever you are dealing
21   with a scale of problems of Video On Demand from a very large
22   number of customers, there are always new issues as you get
23   more and more requests.  So there are always new
24   opportunities for addressing problems.  But he alleviated in
25   the way that was significant.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                      843

```
 1   Q.   Okay.   But everyone was concerned with bandwidth

 2   limitations, not just Mr. Hoarty, right?

 3           MR. LYONS:   Objection, foundation, Your Honor.

 4           THE COURT:   Sustained.

 5   BY MR. GUTMAN:

 6   Q.   Bandwidth limitations are a general concern in the cable

 7   industry, aren't they?

 8   A.   I'm not sure.

 9           MR. LYONS:   Objection, Your Honor.

10           THE COURT:   Well, you know, if he knows.   He's in

11   the area of technology.   If he knows.

12           THE WITNESS:   Well, bandwidth is generally an issue

13   in every technology involving communication, but to answer

14   specifically, I would have to know the situation that you are

15   describing.

16   BY MR. GUTMAN:

17   Q.   Sure.   And processing power is a concern, as well; isn't

18   that right?

19   A.   Processing power is a general concern in technology in

20   every technology.

21   Q.   And storage capacity?

22   A.   It depends again on the application.   I would have to --

23   if you just discuss it in general, if you have, for example,

24   an application where there is very little data required, and

25   you have the very large server, then storage capacity may not
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                    844

```
 1   be an issue.  So it depends -- to answer this question, I
 2   really have to know the specific application.
 3   Q.  But it can be an issue, correct?
 4   A.  It definitely can be an issue.
 5   Q.  And these are issues not just for cable television or
 6   video, but for computer networks generally, right?
 7   A.  They could be, depending on the situation.  Again, in
 8   different applications sometimes storage, sometimes
 9   bandwidth, and sometimes processing power can all be an
10   issue.
11   Q.  Right.  And basic advances in technology have helped
12   alleviate some of these problems; isn't that right?
13   A.  Well, if -- in a sense, yes and no.  And the reason I say
14   that is because as technology advance, it alleviate some of
15   the problems, but our consumption has also changed in the
16   process.  Whereas we used to be very happy with, let's say,
17   30 channels and no interactive TV, now we want 500 channels
18   and hundreds of interactive channel for each user.  So it
19   exacerbates the limitations even as the technology advances.
20   Q.  But in the 15 years since -- between when Mr. Hoarty did
21   his work and when Verizon brought out FiOS, the state of the
22   art technology in each of these areas moved quite a bit,
23   didn't it?
24   A.  The state of the art is moving pretty rapidly, yeah.
25   Q.  Right.  Now, the simple set-top boxes in the 1990s that
```

Schonfeld, D. - Cross                                        845

```
 1   Mr. Hoarty was writing about didn't do much more than let you
 2   pick a channel, did they?
 3   A.   The ones prior to his invention or --
 4   Q.   Right.  The ones he was talking about in the background
 5   of the invention?
 6   A.   So the kind of set-top box you have back then when you
 7   didn't have interactive TV, they were purely analogs.  So
 8   they didn't have digital ability.  And they allow you to
 9   tune, to scramble and a few other functionalities, filter a
10   few other things like that.
11   Q.   Okay.  Let's take a look at your slide 44, if we could.
12   I think maybe slide 53 now.  And this was in your slides as
13   an example of the simple set-top box, right?
14   A.   This was an example of the simple set-top box, yes.
15   Q.   Okay.  Now, you've studied the FiOS system, correct?
16   A.   Yes, I have.
17   Q.   And you know the different types of boxes that FiOS uses?
18   A.   I'm familiar with some of them but not all of them.
19   Q.   Okay.  And some of them are a lot more sophisticated than
20   this, aren't they?
21   A.   Today because we have migrated over time, and almost
22   everybody uses digital set-top boxes.  So almost all digital
23   set-top boxes, whether they use interactive television or
24   not, whether they are FiOS boxes or not, all will be more
25   complex than this.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                        846

```
 1   Q.  Okay.  But it's not just the fact that it is digital,
 2   there is a lot more functionality and memory and processor
 3   speed, right?
 4   A.  In FiOS?
 5   Q.  In the set-top box.
 6   A.  In which ones?
 7   Q.  Well, let's take a look.  The Cisco CHS 435 HDC.  Also
 8   referred to as the class B dual tuner HD-DVR, right?
 9   A.  I mean, the specifics of the boxes are used by FiOS, is
10   what you are referring to?
11   Q.  Yeah.  I'm sorry.  I'm asking about this particular box.
12   You are familiar with that box, right?
13   A.  Yeah, I may be.  I don't remember the acronym offhand,
14   but I think so.  But I don't know offhand.
15          THE COURT:  Wait a minute.  Let's get something
16   straight here, Professor.  You frequently say I think so.
17   You can't speculate.  We can't allow any speculation.  So I
18   don't allow I guess so, I think so.
19          THE WITNESS:  I would be -- if I can see the actual
20   schematic of the box, that would help.
21   BY MR. GUTMAN:
22   Q.  Let's look at PX 944.  This was your own slide that we
23   just went over earlier today, right?
24   A.  Yeah, that's correct.
25          MR. GUTMAN:  I'm sorry, Your Honor.  Are these being
```

Schonfeld, D. - Cross                                    847

```
 1   shown to the jury?

 2           THE COURT:  Yeah.  PX 944.  I don't see anything up

 3   on the jury screen right now.

 4           THE CLERK:  It is.  It has been admitted.

 5           THE COURT:  It has been admitted?  Where is this PC

 6   944?

 7           THE CLERK:  It has been admitted.  They can show it.

 8           THE COURT:  We have it up on the screen?

 9           THE CLERK:  Yes, sir.

10           MR. GUTMAN:  This was one they were shown earlier

11   today, Your Honor.

12   BY MR. GUTMAN:

13   Q.  This is one you spoke about earlier today, right?

14   A.  That's correct.

15   Q.  Okay.  And this is the class B dual tuner HD-DVR, CHS 435

16   HDC, which is a Cisco set-top box on the FiOS system; isn't

17   that right?

18   A.  That's correct.

19   Q.  Okay.  Now, you also have a schematic of this, don't you?

20   A.  I think that -- well, the schematic I showed, if I'm not

21   mistaken, it is Motorola schematic, from Motorola set-top

22   box, not from the Cisco set-top box.

23   Q.  Let's see the schematic for this one.  This is another

24   one of the slides you showed us today?

25   A.  Right.  It is one of the same Cisco set-top box when I
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                      848

```
 1   showed the actual Cisco set-top box corresponding to it.
 2             THE COURT:  Can you keep your voice up.
 3   BY MR. GUTMAN:
 4   Q.  Well, it has the same PX number, sir.  Do you have any
 5   doubt that this is the same set-top box as the one that had
 6   the picture?
 7   A.  No.  I was just wondering whether it says Cisco or
 8   Motorola set-top box, but I have no doubt.
 9   Q.  Now, this box had a lot more in it than the first one we
10   looked at; isn't that right?
11   A.  It does, yeah.
12   Q.  It's got multiple processors in here, doesn't it?
13   A.  Yes, it does.
14   Q.  It has MB gram memories; isn't that right?
15   A.  It does.  It's a -- I believe -- looking at it, it looks
16   like the modern standard for new set-top boxes which are
17   digital set-top boxes which are used throughout the industry.
18   Q.  Right.  It has 265 megs a gram, right?
19   A.  Yeah, I -- I don't know offhand.  I don't remember
20   offhand the amount of memory.
21   Q.  It also has a 320 gigabyte hard drive in this set-top
22   box; isn't that right, sir?
23   A.  This is for DVR, so it does have a hard drive that I
24   don't recall the actual size of it.
25   Q.  And you studied the different set-top boxes that FiOS
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                           849

```
 1   uses, haven't you?
 2   A.  Yeah, some of them.
 3   Q.  Not this one?  This is the one that you featured in your
 4   presentation.  Are you saying that you didn't study this one?
 5   A.  This one I did study.
 6   Q.  Okay.  Then you know, sir, that when it was actually
 7   released, it had a 500 gigabyte hard drive; isn't that right?
 8   A.  I don't recall that information.
 9   Q.  And it says here it's got enhanced graphics and dual
10   tuners; is that right?
11   A.  It doesn't -- if I can just explain, this is what a
12   modern set-top box looks like.  All digital set-top box
13   today, whether they use interactive television or not, all
14   have a processor, and usually a microprocessor just like
15   this.  In this case, it is a specially designed one.  As a
16   matter of fact, there are processors of this type everywhere.
17   97 percent of the world's computers are embedded processors.
18   They reside in toasters, refrigerators, as well as set-top
19   box.
20          And in this particular case, you would use such a
21   device, whether you use it for interactive television or not,
22   it is not the kind of facility that where -- it is not the
23   kind of processor when we are talking about an interactive
24   controller which can store 15,000 movies and allow the kind
25   of interaction we are talking about in the servers.  It is a
```

Schonfeld, D. - Cross                                             850

```
 1   different order of magnitude.
 2   Q.  Dr. Schonfeld, please try to answer the question more
 3   directly if you can.  Back in the 1990s, when Mr. Hoarty was
 4   working, IBM mainframe computers didn't have this much
 5   memory, did they?
 6   A.  Yeah, the scale of computing has changed dramatically
 7   both in the set-top box in the server in both cases.
 8   Q.  And IBM mainframe computers that would fill a room didn't
 9   have the same kind of processing speed; isn't that right?
10   A.  As I said, this would be true both for the set-top box as
11   well as the server.  Yeah.
12   Q.  So you'd agree with me that the advances of technology
13   helped address some of these issues, right?
14   A.  Yeah.  Like I said earlier, which is it can exacerbate
15   the problem because now these set-top box, multiple of them
16   are demanding more and more request for more and more
17   information that it can handle, which puts a tremendous
18   burden on the processing side of the server side processing.
19   And so it -- instead of resolving the problem, it can
20   actually exacerbate it.
21   Q.  Because we expect more from our machines; is that your
22   point?
23   A.  From the processors in the headend side, that's right.
24   Q.  Now, let's talk about bandwidth for a minute.  When
25   Mr. Hoarty was working -- was doing his work, nobody had done
```

Schonfeld, D. - Cross                                        851

```
 1  fiber to the home, right?

 2  A.  People have done it in research environment but not in

 3  the commercial setting over cable television.  But it was

 4  something people were aware of.

 5  Q.  Nobody had done it in the real world until Verizon; isn't

 6  that right?

 7  A.  That may not be accurate.  There were projects for doing

 8  fiber to the home available not necessarily over cable

 9  television systems but over other type of systems that were

10  deployed.

11  Q.  But nobody had done it for cable television on a major

12  commercial basis until FiOS; isn't that right, sir?

13  A.  To the best of my knowledge, that would be accurate, but

14  I don't have definite proof of it.

15  Q.  And to the extent that fiber was used, it was in hybrid

16  fiber coaxial systems, what you referred to in your testimony

17  as HFC networks; isn't that right?

18  A.  Yeah, they come in use of fiber in cable television

19  systems that are actually deployed in commercial systems was

20  in HFC, that's correct.

21  Q.  And even in those HFC systems, the bandwidth available in

22  a cable network was restricted to between 300 to 450

23  megahertz or 750 megahertz; isn't that right?

24  A.  That sounds right.

25  Q.  And that included HFC networks, right?
```

Schonfeld, D. - Cross                                              852

```
 1    A.   That was the bandwidth limitation over the coaxial cable
 2    portion.
 3    Q.   Correct.
 4    A.   Which is still valid today in the home but it's not true
 5    over the fiber portion.
 6    Q.   But you don't have the same kind of demand within one
 7    home, do you?
 8    A.   I would -- it depends on the deployment, how many -- it
 9    would depend on how many set-top box in homes are connected
10    to a single optical connection.  And so, again, you'll have
11    to service a specific environment.  But in all likelihood,
12    you are right.
13    Q.   Now, just using fiber to the home substantially helps
14    address the bandwidth problem; isn't that right?
15    A.   It increases the bandwidth problem.  It increases the
16    bandwidth available to the home.  It provides many more
17    services that could not have been available otherwise.
18    Q.   Right.  And the fiberoptic cable, as used by Verizon, has
19    three different wavelengths of light, three different colors
20    that are used, right?
21    A.   That's correct.
22    Q.   The wavelength of light is what distinguishes colors when
23    you see them; isn't that right?
24    A.   If they are in the visible range.
25    Q.   Within the visible range?
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                      853

```
1    A.   Yeah.
2    Q.   And one of those wavelengths, one of those colors of
3    light alone has the capacity of a coaxial cable; isn't that
4    right?
5    A.   That would be -- it would have more than the coaxial
6    cable capacity.
7    Q.   Okay.  More than?
8    A.   Yeah.
9    Q.   And notwithstanding that, people are still looking to
10   find better ways to address bandwidth issues, right?
11   A.   People will always push the technology further, it
12   doesn't stop, whether it's bandwidth, processing power, just
13   like your PC at home becoming laptop and the machines get
14   smaller and more powerful, and they keep on crashing because
15   they put more software on them.
16        So it is the same thing over here, you can resolve
17   the problem but it doesn't solve so it makes it even worse
18   sometimes.
19   Q.   Now, let's talk about two-way communication, one of the
20   other issues, for a moment.  You heard Mr. Hoarty claim that
21   his patents were radically different from systems that used a
22   telephone line for two-way communications, didn't you?
23   A.   I don't remember him saying that.  I may not have been
24   here.  As I say, I was only here for a part of his testimony.
25   Q.   Well, then let's talk about what you say.  You, yourself,
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                854

```
 1   testified on Friday that while prior approaches used a
 2   telephone return, Mr. Hoarty's contribution was that he,
 3   "Insisted that all communications be done over a cable
 4   system"; is that right?
 5   A.   That is correct in the context of the first three
 6   patents, the interactive TV patents.  It would not be the
 7   case for the frame server patent.  So that particular
 8   discussion was in the context of the first three patents.
 9   Q.   So for the first three.
10         Now, you were here when Mr. Brown testified, weren't
11   you?
12   A.   Again, only for -- I'm sorry, only for a portion of his
13   testimony.
14   Q.   Did you hear him testify about the trial that ActiveVideo
15   did in Santa Barbara in 1996?
16   A.   I was here for at least for a part of it, yeah.
17   Q.   Right.  And he testified that ActiveVideo system, five
18   years after Mr. Hoarty's work, used a telephone line for the
19   two-way return service in that Santa Barbara test, didn't
20   they?
21   A.   I heard them say something to that effect, yeah.
22   Q.   That was many years after Mr. Hoarty's work in his
23   patent?
24   A.   I'm not sure what they were deploying was related to
25   Mr. Hoarty's patents or not.  I just -- I don't remember the
```

Schonfeld, D. - Cross                                              855

```
 1  discussion leading up to it about what the system they were

 2  deploying was and what its function was.  I don't know

 3  whether ActiveVideo has more than one product or only one

 4  product.

 5  Q.  So you don't recall him testifying that the system used

 6  Mr. Hoarty's patents?

 7  A.  Yeah, I don't remember him saying that, no.  He may have

 8  said it.

 9  Q.  Now, in this case, sir, you are wearing two separate

10  hats, aren't you?  You are both the infringement expert this

11  week testifying to your opinions about whether or not Verizon

12  infringes, and then next week you're the validity expert

13  testifying as to the validity of the patents, right?

14          THE COURT:  I think that might be a little riskier

15  until he does that.

16          MR. GUTMAN:  If he doesn't, Your Honor.

17          THE COURT:  So I think you hold off on what he is

18  going to do next week about his testimony.

19  BY MR. GUTMAN:

20  Q.  Well, let me ask it more generally.  To show

21  infringement, the expert trying to show infringement

22  testifies about the similarities between the claims of the

23  patents and the -- and in this case the FiOS system, right?

24  That is what you've been doing for the last two days?

25  A.  I was establishing the fact that Verizon practiced each
```

Schonfeld, D. - Cross                                856

```
 1   and every one of the limitations of the asserted claims that
 2   I discussed both today and Friday.
 3   Q.  And if you come back next week, you would be testifying
 4   about differences between --
 5           THE COURT:  Sustained.
 6   BY MR. GUTMAN:
 7   Q.  You've prepared and given to us an expert report
 8   concerning your opinions on not -- on validity; isn't that
 9   right, sir?
10           THE COURT:  What I'm trying to say is -- what I'm
11   ruling on, Mr. Gutman, is this.  So far his testimony has
12   always been on infringement.  And so within the scope of
13   direct, you cross-examined him on that.  You will get an
14   opportunity, should he return as a witness, on validity to
15   challenge that.
16           MR. GUTMAN:  What I would like to show, Your Honor,
17   is the inconsistencies between the positions he takes
18   depending on which side of this he is on.
19           THE COURT:  Well, you will do that next week.
20           MR. GUTMAN:  We've gotten prior written statements,
21   Your Honor, that I'd like to be able to impeach him with.
22           THE COURT:  Well, come on the side.  You all stand
23   up for a second.
24           (Side-bar conference.)
25           THE COURT:  I understand exactly what you're going
```

Schonfeld, D. - Cross                                           857

```
 1   to do.  But this gets potentially confusing, very confusing

 2   for the jury when you get into trying to drag in what he's

 3   coming up with in the validity testimony versus what he's

 4   trying to say here, when he hasn't even put that testimony

 5   on.  As far as you know, he might recant on that testimony.

 6   And so that's the problem having you getting into what he

 7   said over here.

 8            Now, that's the problem I'm trying to contain.  This

 9   gets real messy.

10            MR. GUTMAN:  And it's simply a matter of, Your

11   Honor, of him taking specific terms in the patent and, for

12   purposes of infringement, saying one thing, and for purposes

13   of invalidity saying they mean something very different, and

14   I think I need to be able to show that because in his

15   report --

16            THE COURT:  How many times has he done this?

17            MR. GUTMAN:  Probably half a dozen.  Not a whole

18   retrying -- it is not a separate trial in the case.  I just

19   want to keep him -- run across him on the inconsistent

20   statements.

21            THE COURT:  Maybe what you need to do is to try to

22   put a specific question.  It is all on how you ask the

23   question, whether you've ever defined this term in a

24   different manner.

25            MR. GUTMAN:  Got you.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                          858

```
 1              THE COURT:  And if he says yes, or you could just

 2    ask him, have you ever defined this term as A, B, C and D,

 3    and don't say it is for validity or your claims because we

 4    don't know what is going to happen.

 5              MR. GUTMAN:  What I was trying to do, the next

 6    question in this line is going to be, are you taking the same

 7    position for both purposes.

 8              THE COURT:  No.  And that is why I do not want you

 9    to get that.  Do not go there.  Just ask him if he is

10    defining to such and such.

11              MR. GUTMAN:  Okay.

12              (End of side-bar conference.)

13    BY MR. GUTMAN:

14    Q.  Could we see patent '678, claim 1 of it.  If you can

15    highlight the reference to a home interface controller.

16    A.  Okay.

17    Q.  You found it?

18    A.  Yeah.

19    Q.  You can find it in the patent.

20              THE COURT:  Pull the microphone in front of you.

21    BY MR. GUTMAN:

22    Q.  Dr. Schonfeld, this term, home interface controller,

23    shows up in, I think, every claim that you reviewed; isn't

24    that right?

25    A.  I'm pretty sure it does.
```

Schonfeld, D. - Cross                                        859

```
 1   Q.  But I don't recall you testifying, in response to

 2   Mr. Lyons' questions, concerning what you consider to be the

 3   home interface controller in the FiOS system.  The question

 4   is, did you already answer the question as to what the home

 5   interface controller is?

 6   A.  I did.

 7   Q.  Okay.  Is it the set-top box?  Is that your testimony?

 8   A.  In my presentation I identified the set-top box as the

 9   home interface controller.

10   Q.  So the set-top box standing alone is the home interface

11   controller?

12   A.  The set-top box is the home interface controller when it

13   sends it on to the home interface controller.

14   Q.  Okay.  Now, you are aware, aren't you, sir, that in the

15   FiOS system, in addition to set-top boxes in the house, one

16   for each television, there is something called a broadband

17   home router or BHR?

18   A.  That's right.

19   Q.  And the BHR is between the set-top boxes and the network;

20   isn't that right?

21   A.  No.  The BHR is a router over the -- that connects -- is

22   through the remote connecter, the coaxial cable going to an

23   optical end switch that converts light to electricity and

24   electricity back to light.  And the BHR is a router that

25   routes signals that comes through the fiber, get converted to
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                    860

1   electricity and gets routed to the right set-top box at home.

2   Q.  Let me see if I can simplify that.  The signal comes in

3   from the cable system to the house to the BHR; is that right?

4   A.  The signal comes in from the cable system to what is

5   called the OMT, gets converted to electricity, comes through

6   the BHR to the set-top box.

7   Q.  Okay.  To the BHR and then to the set-top boxes, right?

8   A.  That's correct.

9   Q.  Okay.  And I believe you've stated it's your opinion,

10  sir, that the home interface controller has to be one device,

11  right, not a combination of devices?

12  A.  What I said -- you mean during trial?  Are you asking me?

13  Q.  You stated this opinion?

14  A.  At trial?

15  Q.  Prior to testimony, sir, you have stated this opinion?

16  A.  So what --

17  Q.  Is that true?

18  A.  I've stated that it can be a multiple device if they work

19  in connection together, in direct communication, then it can

20  be two devices.  But if it's completely unrelated device that

21  are not in communication with each other, like if one is at

22  home and the other one is outside the home, then they should

23  not be -- they should not be viewed as a single device.

24  Q.  Didn't you express the opinion in one of the reports that

25  you've submitted in this case that it has to be one set-top,

Schonfeld, D. - Cross                                          861

```
 1   one device?

 2   A.   Just to put it all in context, I said it has to be two

 3   devices working in concert, and it has to be a device -- I

 4   believe I clarified it in previous engagements we had.

 5   Q.   Why don't you look at your rebuttal report at Page 81.

 6   Let's highlight the sentence.  Didn't you write in that --

 7   A.   Hold on a second.

 8          THE COURT:  Let him find it first, and then I think

 9   once he reads it, the question is does that refresh his

10   recollection.  He says yes, ask him, if not, then you go back

11   through it again.

12   BY MR. GUTMAN:

13   Q.   It's the one sentence that is highlighted, sir.  If you

14   look at the screen, you see the one sentence that is

15   highlighted on the page.  That may be easier than finding it

16   in the book.

17          THE COURT:  Since that is refreshing recollection,

18   the jury doesn't see that.  We cut the video off while he

19   reads that.

20          THE WITNESS:  I remember the sentence, yeah.

21   BY MR. GUTMAN:

22   Q.   Okay.  So you recall that you wrote in the report, "The

23   asserted claims required the home interface controller to be

24   one device, not a combination of devices"?

25   A.   And indeed it says over here that is in relation to a
```

Schonfeld, D. - Cross                                              862

```
 1   very specific system called a Telaction system, and that

 2   particular section, as I recall, the two devices that were

 3   combined, one was a device on the pole in the street and the

 4   other one was at home.  And so there are two devices had no

 5   connection to each other, no communication with each other,

 6   and I clarified that particular statement with respect to the

 7   context of the Telaction system in my position.

 8   Q.  Let's look at Page 28 of the rebuttal report.  Could you

 9   highlight the language for the doctor.

10            THE COURT:  Page 20, is that continued on the same

11   question?

12            MR. GUTMAN:  It's the same statement with respect to

13   a different system.

14            THE COURT:  Okay.

15            MR. LYONS:  I just object that this is beyond the

16   scope of what we discussed at the side bar and is getting

17   into specific --

18            THE COURT:  Well, I overrule it for the time being

19   because I believe he is trying to refresh his recollection on

20   the specific question, and so far I don't think it really

21   runs afoul of probably what the Court had in mind here.  We

22   will let it go, let this question go.

23   BY MR. GUTMAN:

24   Q.  You took a similar position with respect to the Graves

25   prior art reference, right?
```

                    JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                    863

```
 1   A.   Not quite.  In the case of Graves, I was simply reacting
 2   to Verizon's view where they said this device and this device
 3   constitutes the home interface controller.  And what I was
 4   saying is if you take one of the devices that is close to the
 5   TV, it could be a home interface controller.  If you take
 6   both devices, that could be a home interface controller.  But
 7   if you take only the other device that is far away and does
 8   not connect to the TV, that should not be viewed as a home
 9   interface controller, and I think I've clarified that comment
10   in the past.
11   Q.   Their devices were all in the same building, weren't
12   they?
13           MR. LYONS:  Your Honor, objection.  We are getting
14   into the issues.
15           THE COURT:  I'm going to sustain the objection
16   because I think you are trying to pull the contract of
17   inconsistency, and we may have a tendency to get off a lot
18   further than I think we want to go.
19   BY MR. GUTMAN:
20   Q.   Now, I believe you testified, sir, that the SeaChange
21   Mediacluster server and/or its edge card is an individually
22   assignable processor capable of being assigned on a
23   one-to-one basis to the set-top box?
24   A.   That's correct.
25   Q.   Now, again, in your rebuttal report of Page 77 --
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                              864

```
 1            THE COURT:  The Court's direction was, have you ever

 2   testified.

 3   BY MR. GUTMAN:

 4   Q.  Have you ever testified that a channel server servicing

 5   multiple presentation players was not a processor capable of

 6   being assigned on a one-to-one basis to an interface

 7   controller?

 8            THE COURT:  Is that the same question?  Wait a

 9   minute.  I'm just saying if we ask for his inconsistency, if

10   that's the same question technologically that you are asking

11   him?

12            MR. GUTMAN:  This is about individually assigned

13   processors.

14            THE COURT:  Okay.  Fine.

15   BY MR. GUTMAN:

16   Q.  And the question is, have you stated the opinion that a

17   channel server that services multiple presentation players

18   cannot be an individually assignable processor because it is

19   not, as the Court construed, a processor that is capable of

20   being assigned on a one-to-one basis to a home interface

21   controller?

22   A.  Again, we are talking about -- I think it is the

23   Telaction system, if I'm not mistaken, and to put it in

24   context over there, you have a system where there is a

25   processor, and then once one person locks on to that
```

Schonfeld, D. - Cross                                            865

```
 1  processor, it broadcasts to everybody, and nobody else can
 2  use it for their own interaction request.  And so I was
 3  talking about this in the very specific -- in a very specific
 4  setting, which is unrelated to the Mediacluster server.
 5  Q.  But that is your opinion, right?  If it serves multiple
 6  users, it's not assignable, it's not an assignable processor,
 7  right?
 8  A.  Well, when it serves multiple users in the way on that
 9  particular system, the Telaction system, that would not be
10  assignable on a one-to-one basis because it just broadcasts
11  based on the first request.
12  Q.  And the Mediacluster server and edge card also serve
13  multiple set-top boxes; isn't that right?
14  A.  They are assigned to multiple set-top boxes but the
15  assignment itself is on a one-to-one basis.
16  Q.  But they are at all times, unless there is only one
17  person using the system, they are at all times available and
18  usable by multiple set-top boxes; isn't that right, sir?
19  A.  That's not accurate.  The -- first of all, indeed, when
20  they are not used by anybody, they would be assigned and used
21  by one set-top box.  But the construction from the Court, is
22  it capable of being assigned on a one-to-one basis.  And the
23  assignment can be done on a one-to-one basis for each request
24  coming in.  It is nearly impossible for two requests to take
25  place simultaneous.  Actually, it is impossible.
```

Schonfeld, D. - Cross                                      866

```
 1   Q.  So you're testifying that the Mediacluster can't be used
 2   by more than one -- more than one user at once, is that what
 3   you are testifying?
 4   A.  No, it can't be used by more than one.
 5   Q.  Of course, it can.  It can be used by dozens of people,
 6   can't it?
 7   A.  All I was saying --
 8   Q.  Hundreds?
 9        THE COURT:  Wait a minute.  Mr. Gutman, you've got
10   to let him finish his statement there.
11        THE WITNESS:  All I was distinguishing between the
12   assigning and the using.  Using can be done by multiple
13   people.  The assignment can be done on a one-to-one basis,
14   and the construction by the Court is assignable on a
15   one-to-one basis, and the assignment is done on a one-to-one
16   basis.  Once each assignment takes place, it is then can be
17   used by more than one and is routinely used by more than one
18   unless the system just starts and the first user comes in.
19   BY MR. GUTMAN:
20   Q.  So it's used by multiple people at once, right?
21   A.  It is used by multiple people at once.
22   Q.  Let's talk about set-top boxes, numbers of set-top boxes.
23   I think you testified that at the time that Mr. Hoarty's work
24   commonly used set-top boxes, lacked the processing power and
25   the storage capacity to create origin or active experience;
```

Schonfeld, D. - Cross                                    867

```
 1   is that right?  Slide 66.  That is what you said to the jury,
 2   right?
 3   A.  That's correct, yeah.
 4   Q.  And you told the jury that one way to deal with this
 5   problem is to actually have a big server in your home capable
 6   of holding all the movies you might ever want to watch,
 7   including Casablanca.  Do you recall that testimony on
 8   Friday?
 9   A.  Yeah.  I said an example of what you could do but should
10   not do because it would be -- every home has to have a large
11   server in it, and it would not be a practical solution.
12   Q.  Right.  And when Mr. Hoarty, in talking about the
13   problems the patent was addressing, was talking about the
14   capacity of set-top boxes, are you telling the jury that the
15   comparison he was drawing was between the set-top box and a
16   server in the home?
17   A.  If -- I don't know what Mr. Hoarty was talking about, but
18   what I was referring to was the fact that if you wanted to
19   provide the same kind of services that you currently can get
20   with an interactive television Video On Demand system where
21   all the videos are stored in the headend, then you want to
22   have the same ability, same speed, same number of movies,
23   same services, one way you could do it is invest tremendous
24   amount of money and just simply build it in your home.  But
25   that is not a solution that most people would prefer.
```

Schonfeld, D. - Cross                                              868

```
 1   Q.  A server and the set-top box are not the same thing,

 2   right?

 3   A.  A server and the set-top box are not the same thing, no.

 4   Q.  So to the extent that there were references by

 5   Mr. Hoarty, references by all the ActiveVideo witnesses that

 6   the differences between dumb and smart set-top boxes, nobody,

 7   before your testimony on Friday, was comparing anything to

 8   the server, were they, sir?

 9            MR. LYONS:  Objection, foundation.

10            THE COURT:  The objection is sustained.  You are

11   asking him to speculate about what they had in mind.  Maybe

12   they were dead wrong if that's what they had in mind.  So I

13   sustain that.

14   BY MR. GUTMAN:

15   Q.  You never expressed an opinion in your expert report that

16   the comparison was to a server, did you, sir?

17   A.  Nothing in the expert report, no.

18   Q.  Nothing about servers as opposed to the existing set-top

19   boxes in your report, correct?

20   A.  I believe that's correct.

21   Q.  And you were here when Mr. Hoarty testified, weren't you,

22   about what he considered to be the difference between a smart

23   or a high end set-top box and the others?

24   A.  I don't know whether I was here for that discussion.

25   Q.  You didn't hear him say that an expensive set-top box
```

Schonfeld, D. - Cross                                              869

```
 1   with a computer in it or a microprocessor is what he had in

 2   mind in terms of the high end set-top box?

 3   A.  Yeah, no, I was not here for that.

 4   Q.  Now, let's look at the slides you prepared for the jury

 5   here.  First let's look at slide 54.  This was the simple

 6   set-top box you testified about; is that right, sir?

 7   A.  This is an example of what I said earlier, is an analog

 8   set-top box, the kind of box that would be before digital

 9   cable became widely available.

10        MR. GUTMAN:  Okay.  And then let's look at slide 69.

11   This -- I'm sorry, Your Honor.  These are being published to

12   the jury?  These are the same demonstratives that were shown

13   before.

14        THE COURT:  Okay.  You want those?

15        MR. GUTMAN:  Yes.

16        THE COURT:  They are being published, the last two.

17   BY MR. GUTMAN:

18   Q.  Okay.  Sorry.  I keep forgetting to ask.

19        And this is the slide where you explained that the

20   advanced set-top boxes included additional components which

21   made them larger and more expensive, right?

22   A.  If you were -- this was talking about the hypothetical

23   server-type set-top box that you would have in your home that

24   I was telling you you do not want to do it this way.  And so,

25   yeah.
```

Schonfeld, D. - Cross                                    870

```
 1   Q.   I'm sorry.  So this slide doesn't refer to set-top boxes,
 2   advanced set-top boxes, it is meant to refer to servers?
 3   A.   It is meant to refer to the capability of downloading a
 4   tremendous amount of video, storing it all on your own
 5   set-top box, and if you were to do something equivalent to
 6   what is available through FiOS where you can get thousands
 7   and thousands of movies, you would need a very, very, very
 8   large and very, very expensive set-top box.
 9   Q.   Let's look at slide 72.  This is another slide you
10   prepared, right, showing an advanced set-top box?
11   A.   Yeah.  I don't know that I actually presented this to
12   the -- at trial, but this would be an example of something
13   equivalent to today's modern digital set-top box.
14   Q.   Right.  This is -- this was the advanced set-top box that
15   was in your presentation, right?
16   A.   This is an example of the kind of set-top box you would
17   get almost everywhere, whether you use FiOS or Verizon or any
18   other system, HFC, whether you use Video On Demand or don't
19   use Video On Demand, this would be a modern digital set-top
20   box.
21   Q.   This is an advanced set-top box.  In 1990 this would have
22   been one of those expensive things, right?
23   A.   You could not use this to store thousands and thousands
24   of movies.
25   Q.   But that wasn't what Mr. Hoarty was talking about storing
```

Schonfeld, D. - Cross                                        871

```
 1   thousands and thousands of movies, that is your view of it,

 2   right?

 3   A.   I'm not sure what you're referring to but --

 4            MR. LYONS:  Your Honor, objection.

 5   BY MR. GUTMAN:

 6   Q.   Was it included in your --

 7            THE COURT:  You have an objection to your last

 8   question.

 9            MR. GUTMAN:  I'll withdraw it and let me ask --

10            THE COURT:  Withdrawn.  Okay.

11   BY MR. GUTMAN:

12   Q.   The theory that it's really a server and not an advanced

13   set-top box is the theory you advanced here at trial but not

14   in your expert report, right?

15   A.   It is not a theory.  I just simply tried to convey in a

16   simple way some of the decision-making processes that would

17   face somebody if they wanted to have the ability to interact

18   with the television and provide the kind of services that we

19   would like to have and expect.

20   Q.   And this set-top box, unlike the first one we looked at,

21   has a processor, and memory, a hard drive and a descrambler,

22   right?

23   A.   By the time of the middle to late '90s, every time you

24   got a digital set-top box, and they were usually -- both were

25   available in the mid to late '90s, it would look like this.
```

Schonfeld, D. - Cross                                          872

```
 1   It would have all of these components to make it digital, you
 2   mean to have a processor and microprocessor and memory?  If
 3   you wanted to have the ability to DVR, like in here you would
 4   need a hard drive.  So all of these would be commonly used
 5   from around the middle '90s to late '90s.
 6   Q.  Have you expressed the opinions, sir, that a system would
 7   be the direct opposite of the invention required by the
 8   asserted claims where the computing power needed for the
 9   interactive services is placed in a node or -- sorry.
10         Have you stated the opinion, sir, that putting much
11   of the computing power needed for the interactive service in
12   the set-top box is the direct opposite of the invention
13   required by the asserted claims of the Hoarty patents?
14   A.  That's correct, as long as it's understood in context
15   which it means the relative processing power compared to the
16   processing power in the server side, that's correct.
17   Q.  And you stated that opinion in reference to the GTE main
18   street system; isn't that right, sir?
19         MR. LYONS:  Objection, Your Honor.  We are getting
20   into such matters as instructed not to pursue.
21         MR. GUTMAN:  One more question on this.
22         THE COURT:  As long as it is within the bounds of
23   what we are trying here, doesn't matter if it is a bad
24   question.  If it is beyond where the Court wants to go, we
25   are not going there.
```

                    JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                      873

```
 1              MR. GUTMAN:  The point I want to make, Your Honor,
 2    is that that system didn't have a server.
 3              THE COURT:  Well, you know, the question is that we
 4    are dealing with the servers that in this case pertain to
 5    this patent, so I sustain it.
 6    BY MR. GUTMAN:
 7    Q.  Is it your opinion, Dr. Schonfeld, that the set-top box
 8    software on the Verizon system provides a user interface and
 9    allows subscribers to view and navigate programming?
10    A.  The interactive media guide, as I explained, does provide
11    the ability to view and navigate programming, and it's in
12    combination between the software residing on the set-top box
13    as well as the software and data residing on the server.
14    Q.  And that's run at the set-top box; isn't that right, sir?
15    A.  The IMG client, the software portion on the set-top box
16    is run on the set-top box.  The IMG software residing on the
17    IMG server is run on the server in the video hub office.
18    Q.  But the set-top box software provides a user interface
19    that allows the subscribers to view and navigate the
20    programming; isn't that right, sir?
21              MR. LYONS:  Asked and answered, Your Honor.
22              THE COURT:  Wait a minute.  Sustained.
23    BY MR. GUTMAN:
24    Q.  Now, you've been working in this field for a long time,
25    haven't you, sir?
```

Schonfeld, D. - Cross                                          874

```
 1   A.  Yes, I have.

 2   Q.  And you never heard of AVN over the last year or so in

 3   the context of litigation, have you?

 4   A.  I think the term AVN, they changed the name of the

 5   company, and I've heard of -- I think I heard -- I've heard

 6   of the term AVN.  I saw it in reference in passing, but

 7   generally that's correct.

 8   Q.  Now, on Friday you told the jury that the patent

 9   describes that if you're in the mood for watching Casablanca,

10   you can just press and click on it, and you'll receive the

11   movie and can watch it right then when you want to, right?

12   A.  I'm sorry.  Can you repeat it?  I'm sorry.  I didn't

13   follow you.

14   Q.  You told the jury that the patent describes the ability

15   to just press and click on Casablanca and watch the movie; is

16   that right?

17   A.  Yeah, I gave an illustration of how the ideas of the

18   patent would manifest themselves, and my recollection is that

19   the patent actually provides an example of previewing

20   Casablanca, if I'm not mistaken.

21   Q.  Let's look at the '678 patent, column 19, lines 28 to 45.

22   You see that language, sir?  I'd like to publish to the jury.

23             THE COURT:  It is already up.

24             MR. GUTMAN:  Thank you.

25             THE COURT:  It may very well be on your screen,
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                            875

```
 1   Professor, if you are looking for it.
 2           THE WITNESS:  I can see it.
 3   BY MR. GUTMAN:
 4   Q.  Now, this talks -- this is from the patent, and it talks
 5   about the smart TV selection permitting the subscriber to
 6   search for listings of films, right?
 7   A.  To search for what, I'm sorry?
 8   Q.  Listings.
 9   A.  It provides for a number of services, and one of the
10   services allows for listing of the films.
11   Q.  And it doesn't say anything in here about being able to
12   click it and watch it right then, does it?
13   A.  It says on the bottom, one could, for example, choose --
14   it says to record Casablanca, but if you go back and -- if
15   you go to Figure 40 of the patent.
16   Q.  Let's look at Figure 41.  I think that is the one you
17   were showing the jury.
18           MR. LYONS:  He asked for 40.
19           THE COURT:  Take him back.  He was in the process of
20   explaining the answer, and you said go to figure 40.  Go back
21   to the previous slide, and he was at number 40.
22           MR. GUTMAN:  Sure.  Put up the slide we were at
23   before.
24           THE COURT:  Now, you were in the process of
25   explaining something about Figure 40.  What was it?
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                       876

```
 1              THE WITNESS:  So if you actually can see Figure 40
 2   in front of you, you have the patent available to you, and
 3   you can actually see Figure 40.  It has the option of
 4   preview, watch and record, and the description, I believe,
 5   said something of a selection and recording over here.  It
 6   says one could select Bogart and eventually produce the
 7   listing of choices shown in Figure 40, and those choices
 8   include things like preview or watch, and so that's exactly
 9   what it's referring to.  You can actually see Casablanca.
10   BY MR. GUTMAN:
11   Q.  So this is Figure 40.  This is the one you were talking
12   about?
13   A.  That's correct.  I just finished explaining.
14   Q.  And this is a listing of the show times for different
15   Humphrey Bogart movies, right?
16   A.  That's correct.  In this particular example you may not
17   necessarily be able to watch it right then and there.  The
18   example in this particular case is that you may be able to
19   watch it when it's available or something along these lines.
20   It was not meant to convey a Video On Demand application.
21   Q.  Right.  This is not -- I mean, you testified -- I think
22   we'll turn to Figure 41 in a moment, which I think is the one
23   you were showing the jury.  But this Figure 40 does not show
24   Video On Demand, does it?
25   A.  It does not necessarily imply Video On Demand.  I didn't
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                    877

1   mean to present it that this is exactly what it shows.  But

2   the kind of interactive service that it provides with a

3   carousel, it's exactly the same kind of technology and the

4   same kind of interaction that you need to actually view the

5   movie in a Video On Demand context.  It is exactly the same

6   procedure, same context, and it discusses the ability to do

7   Video On Demand in the patent as one example of the type of

8   interactive services it wants to provide.

9   Q.  So this doesn't show Video on Demand, it doesn't even

10  show interactive TV, does it?  It just shows a listing of

11  programs and tells you when they are on and which channels

12  they are on; isn't that right?

13  A.  It shows a listing of programs at specific times, but the

14  program does talk about Video On Demand.

15  Q.  And but it isn't Video On Demand, right?

16  A.  This --

17  Q.  When the time for the program is set and you can't just

18  say, I want it now, that is not Video On Demand, is it?

19  A.  So you can interpret it any way, but given the fact that

20  it gives the actual time in this particular example, the

21  interactive through the carousel and moving the carousel, and

22  but the patent talks about Video On Demand.  And if you were

23  to actually watch it, and if you interpret this figure to

24  allow you to watch it now, regardless of when it is showing,

25  then it would be Video On Demand.

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                          878

```
 1   Q.  But there is nothing on here that indicates that you can
 2   watch Casablanca anytime or anyplace other than at 7:30 p.m.
 3   on Saturday on channel 12, right?
 4   A.  This would be one interpretation of this figure.  As I
 5   said, the carousel picture is meant to show an interactive
 6   service through the carousel itself, and the interaction with
 7   a carousel, which would be just like a Video On Demand.  You
 8   saw the pictures earlier of the video where the carousel is
 9   moving.  That was the video.  And in this particular example
10   of it, it would actually show Casablanca.  And you can do
11   various services with it, and potentially one of them would
12   be Video On Demand, although it's not clear from this figure
13   whether it is meant to be Video On Demand here or not.
14   Q.  And there is nothing in that language that talks about
15   this figure that says you can watch any of these things,
16   anytime or anyplace, other than shown on the screen, right?
17   A.  That's correct.  It leaves it up to the reader to look at
18   this figure and make their own judgment.
19   Q.  Channel 12 might be NBC, for all we know, right?
20   A.  Channel 12?
21   Q.  Channel 12 on this system could be a regular broadcast
22   station; isn't that right?
23   A.  It appears from the word watching, watch it when it is
24   broadcast, then it would be the kind of example that you are
25   talking about.
```

JODY A. STEWART, Official Court Reporter

Schonfeld, D. - Cross                                              879

```
 1   Q.  Now, you'll agree with me, won't you, sir, that regular

 2   broadcast service is not interactive television; isn't that

 3   right?

 4   A.  Clearly, that's correct.

 5   Q.  And commercials or advertisements that are included in

 6   regular broadcast TV are not interactive, either, right?

 7   A.  You could get commercials interactively but not normal

 8   commercials on regular broadcast, that is not -- but just to

 9   put it in context, if this were to be broadcast, this is

10   still an interactive service because the carousel itself

11   provides an interactive service just like video would.  As a

12   matter of fact, it would be video.

13   Q.  Right.  The only examples of interactivity you found in

14   the patent are the menus depicted in Figures 33 to 41, right?

15   A.  Well, it talks about interactivity in the context of

16   Video On Demand and the kind of functionality and services

17   that are needed, but the example it illustrates is the

18   carousel that was shown to you both in the patent as well as

19   in the video.

20   Q.  Right.  Let's look at those figures, if we could, 33

21   through 41.

22            THE COURT:  I think before we go there, Mr. Gutman,

23   I want you to stick a pin in it, and you can start tomorrow

24   morning on showing Figure 33 through 41.  Try to hold that

25   question overnight.
```

JODY A. STEWART, Official Court Reporter

1          MR. GUTMAN:  I'll try to remember it, Your Honor.

2          THE COURT:  Ladies and gentlemen, we unfortunately

3   have to stop just a little bit short of our goal here.

4   Tomorrow morning I want you to come in and be prepared to go

5   forward at 9:30 tomorrow morning.  You can leave your

6   materials in the jury room.  Do not discuss the case and have

7   a safe evening.  All rise.

8          (Jury out at 5:18 p.m.)

9          THE COURT:  Of course, Professor, you know that goes

10  for you also.  Okay.

11          Have a seat.  You can step down.  One short

12  question, Mr. Gutman.  Will any other local counsel be asking

13  questions during the course of your case?

14          MR. GUTMAN:  We had planned to have Mr. Stillman do

15  some.

16          THE COURT:  Okay.  The reason I ask that, because I

17  try to look back and remember who did I introduce to the jury

18  in the course of the case.  That is another reason I try to

19  stick with the same local counsel.

20          MR. GUTMAN:  It will be Mr. Stillman, and Mr. Frantz

21  will be doing the cross-examination of their damage expert.

22          THE COURT:  All right.  I think I mentioned him, or

23  did I?  I mentioned him.

24          Okay.  All right.  Thank you, gentlemen.

25          MR. GUTMAN:  Thank you, Your Honor.

JODY A. STEWART, Official Court Reporter

```
 1          THE COURT:  Any issues you have tomorrow morning,

 2  the Court is going to try to be in here by 9.  I want to be

 3  here before 9:30.

 4          MR. GUTMAN:  I think we are okay.

 5          MR. FRANTZ:  We have something.  We have objections

 6  to the slide for Mr. Wagner, would like to raise those before

 7  we begin.

 8          THE COURT:  You have what now?

 9          MR. FRANTZ:  Objections to some of the slides they

10  intend to introduce through Mr. Wagner.  So it would be good

11  to have a few minutes before we begin at 9:30 to address

12  those.

13          THE COURT:  Okay.  The Court will be in here around

14  9 if we are going to have some issues.

15          I'm sure you will work it out.  Recess.

16          (Hearing adjourned at 5:20 p.m.)

17                        CERTIFICATION

18

19     I certify that the foregoing is a correct transcript

20  from the record of proceedings in the above-entitled matter.

21

22     X_____/s/_____x

23              Jody A. Stewart

24              X_____7-18-2011_____x

25                   Date
```

JODY A. STEWART, Official Court Reporter